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THE SCOTTISH MEDICAL AND SURGICAL JOURNAL

THE HARVEIAN ORATION FOR 1903

Delivered by JOHN CHIENE, C.B., M.D., etc.,
Professor of Surgery in the University of Edinburgh

HARVEIANS,—Ever since I found amongst the Goodsir papers the hospital ticket of Professor John Goodsir's grandfather, printed on a ten of clubs, I have been impressed with the canniness and economical habits of the founders of our Infirmary, and been desirous of studying their ways.

By the kindness of the Managers I have read the early minute-books, and, although I can find no record of old playing cards being used as a cheap form of hospital tickets, still there are many things which have interested me and may interest you.

The Infirmary is the heart of our School, and the beginning of things always interested William Harvey; in either case the subject is not, I trust, inappropriate to the occasion.

The Edinburgh Royal Infirmary attained its majority in 1749, and it is of the time before that date that I desire to speak.

For many years a surgeon-apothecary had been appointed by the town to attend the sick poor, and the College of Physicians gave advice and medicine gratis in their hall in Fountain Close off the High Street.

John Monro, who was a surgeon in the army, retired, and, fortunately for us, settled as a surgeon in Edinburgh about 1700. His son, afterwards Monro Primus, was then three years old. John Monro joined the College of Surgeons in 1703. He was President in 1712. His grandson, Monro Secundus, says that about the year 1720 his grandfather "communicated

to the Physicians and Surgeons at Edinburgh a plan, which he had long formed in his mind, of founding a Seminary of Medical Education in Edinburgh." This scheme was incomplete without an hospital, and "a scheme was therefore proposed by John Monro and others to members of the Royal College of Physicians and the Board of Surgeons to raise subscriptions," and he further states that Monro Primus "published" (Chambers says "circulated") a pamphlet in 1721, setting forth the advantages that would attend such an institution. This pamphlet was anonymous, written by "well-disposed persons" and of an "exhortatory character." John Monro was a very far-seeing man. He should really be called "Monro Primus."

In 1725 this pamphlet bore fruit, and the College of Physicians (assisted by George Drummond, then for the first time Lord Provost of Edinburgh), took up the subject, subscribed themselves and obtained subscriptions, and acquired stock in a fishery company which was then dissolved; and on the 18th of February 1728 called together a meeting of citizens, with Archibald Macaulay, then Provost, in the chair. £2000 had been promised, and a start was made. A "little house" at the head of Robertson's Close was hired from the College Committee of the Town Council at a yearly rental of 50 pounds Scots (£4, 3s. 4d.) for nineteen years, with a break every third year. Six patients were admitted—Barbara Hastie, Elizabeth Sinclair, Hugh Richmond, Isobell Brown, John Simpson, and Farquhar M'Kinnis. For twelve years this was the Infirmary of Edinburgh, costing for upkeep about £100 a year, the interest of the £2000.

In 1736 a Royal Charter was obtained, costing £94, 4s. 2d., and the ground called "Thomson's Yeards" was bought from the George Watson trustees for £420, "the sum which they had paid for the ground." On this site the Royal Infirmary was built. William Adam was architect, and the building committee consisted of two men, George Drummond and Alexander Monro.

The foundation stone was laid on the 2nd of August 1738, and the House was opened in the end of 1741.

During the rebellion of 1745 the building was used for sick soldiers and sailors (only six civilian patients being

admitted between August 1745 and the middle of summer 1746).

In 1746 George Drummond was again Provost, and a fresh start was made, the whole building being used for the first time for its primary objects, the relief of the sick poor "from whatever quarter they came," and the training of students in physic and surgery. In 1749 the history and statutes of the Royal Infirmary were printed, and from that time to the present the Infirmary has steadily advanced with the times.

It is interesting to note that the new Infirmary was built on the grounds of George Watson's Hospital. The history of the Infirmary in 1736 is repeated in 1870.

George Drummond was the presiding genius—a most remarkable man, the best account of whose life is in the *Scots Magazine* for 1802. A strong Hanoverian, he raised a company of college students, and marched from the Lawnmarket to fight Prince Charlie. When he reached the West Port many of his "fighting men" had deserted him and he dismissed those who had followed him. Next day the Cameron Highlanders entered Edinburgh. Drummond retired to Dunbar to meet Sir John Cope, and, after the battle of Prestonpans, he retired with Cope to Berwick. He returned to Edinburgh and his beloved Infirmary in November 1746.

A great hand at figures as a boy, he, when a lad of 20, was appointed in 1707 Accountant General of Excise. Subsequently he became Commissioner of Customs, with a salary of £1000 a year. Six times Lord Provost, the husband of four wives—the last a Quakeress with a dowry of £20,000—the founder of the Exchange in the High Street, and as Grand Mason he laid the foundation stone of the North Bridge. He died in 1766, the year before the first house was built at the east end of Princes Street.

It has been said that no public monument reminds the citizens of Edinburgh of George Drummond. The new town of Edinburgh is his monument.

Such, shortly, is—so to speak—the outer history of our Infirmary, known to all. Let me for a little speak to you of the inner life of the institution, of the staff, of the patients, of the ways in which the money was raised, of the constant

struggle to make both ends meet, and how ultimately these labours were crowned with success; how they plotted and planned, led by Drummond; and above all, how kindly they were.

As far as I can judge, they entered on their work with a light heart, and never, even in their darkest days, lost confidence, always leaning on George Drummond, who was evidently the master mind.

The Managers held their meetings in John's Coffee House till August 1742: after that date they met in the Board-Room of the Infirmary.

In the minute-books much light is thrown on their early struggles.

The Staff.

I have not been able to find any record of the names of the Fellows of the Royal College of Physicians who attended the Hospital. On the 1st of August 1727 the College of Physicians bound itself by a minute "that one or more of their number shall attend the hospital faithfully and freely, without any prospect of reward or salary, until the stock of the said hospital shall be so increased that it can afford a reasonable allowance for one or two physicians." I find in the minute of 19th December 1737,[1] that the Managers stopped licentiates of the College of Physicians attending the Infirmary, but in the minute of January 14th, 1738,[2] that they

[1] Extract from minutes of 19th December 1737:—"The Managers of the Infirmary, being sensible of the inconvenience of so many physicians attending the Infirmary, do unanimously agree that the attendance be performed from and after the first day of January next by such physicians only as are Fellows of the Royal College; that the College be acquainted with this resolution at their first meeting, and the continuance of the attendance of Fellows be humbly desired in name of the Managers, and that thanks be returned them for their attendance and all their good offices to the Infirmary hitherto."

[2] Extract from minutes of 14th January 1738:—"After reading the minute of the sederunt of the 19th December last, by which it is agreed and resolved that the attendance of physicians on the Infirmary shall, from and after the first day of January then next, now last, be by such physicians only as are Fellows of the Royal College, the Managers, calling to mind that Doctor William M'Farlane and Dr Alexr. Martin, licentiates of the Royal College, have in their turn and course carefully attended the Infirmary as physicians with the Fellows of the Royal College from the very first establishment of the Infirmary, and have on all occasions done all in their power for its honour and interest; therefore the Managers agree and declare that the aforesaid

allowed Dr William Macfarlane and Dr Alexander Martin to continue their attendance, as they had been in attendance from the beginning, 1729. Apparently the Fellows were allowing their licentiates to do the work.[1] The first surgeon who offered his services was Alexander Monro; but the Managers, after consultation with the College of Surgeons, appointed six Fellows—John M'Gill, Francis Cargalter, Geo. Cunninghame, Alexander Monro, John Douglas and Robert Hope. They were all Fellows, and two of them, M'Gill and Hope, had been presidents. On the death of M'Gill in 1736 Geo. Balderston was appointed. Balderston left Edinburgh in March 1738, and Robert Smith was appointed. We shall hear more of Balderston afterwards, and I may here note that after August 1738 all Fellows of the Surgeons' were *ipso facto* surgeons to the Royal Infirmary. From the beginning to 1748—for twenty years—the surgeons, "out of their own shops," gave the medicines gratis to all the patients. It was not altogether a bed of roses for the surgeons, because I find that in 1742 William Wood and Geo. Langlands did not attend. They were sharply pulled up by the Managers, but treated their letters with scant courtesy—bold men.[2]

How the Money for the Building was Collected.

With £2000 as a nucleus, the managers appealed to the Presbyteries of Scotland, but apparently with little result. They then turned their eyes to the "Invalid Fund," apparently a Government fund for sick soldiers; but, although they used every endeavour, they did not get this help till 1755. A "poor's box" was made with two keys (one kept by a physician,

resolution is designed only to prevent, so far as can be, the increase of the number of physicians serving in the Infirmary by licentiates from time to time, but not to exclude the two gentlemen above, and appoint the said Doctor M'Farlane and Dr Martin to be called upon and desired to attend the Infirmary as formerly in their order and course, and the Managers order a reference to this sederunt to be made on the margin of the foresaid resolution to explain the true design and intent thereof."

[1] In 1751 two ordinary physicians, Dr David Clerk and Dr Colin Drummond, were appointed. At that date Dr Drummond was a licentiate: he became a Fellow in 1752. Their salary was £20 per annum, afterwards increased to £70.

[2] William Wood is the great-great-grandfather of Dr Russell Wood, immortalised in Alexander James's famous song, "With my club upon my shoulder." The refrain of the song is "Boldness." Another example of the strength of heredity.

the other by David Spence, treasurer). This box is still in the lobby of the Infirmary. I note that the first time it was opened—three months after the "little house" was started—it contained £4, 6s. 6½d. This large sum seems to have given the Managers some anxiety, because at their next meeting they enacted that it "shall be opened once a week for the future, to prevent Rogues entertaining a notion of valuable cash being in it, and so expose the Infirmary to ane attempt at Robbery."

I don't think this idea was adhered to, because I find that, when the soldiers and sailors from 1744 to 1747 were patients, relatively large sums—£20 to £25—were taken from this box.

Collections at the church doors (both Presbyterian and Episcopalian) and house-to-house visitations were regularly undertaken.

In 1731, Dr John Riddell, a Fellow of the Physicians and a graduate of Aberdeen, asked the Managers to consider "how they could lay their hands on" £1000 from the Earl of Thanet's Trust. In this they were successful. This was the first attack outwith Scotland, and we soon find George Drummond writing to John Drummond in London, and to Andrew Drummond, banker there, for help. The Drummond clan was energetic Presbyterians and ubiquitous.

The dancing assemblies were then applied to, and gave much help. The musical society was also a generous donor. Mr Thomas Topham offered to perform feats of strength on behoof of Infirmary; this offer is thankfully received by the Managers.

On the 27th of March 1738, the Managers carefully estimated their income, and it is interesting to note their conclusions.

They arranged for 66 patients—40 on the charity, and 26 servants, their masters paying all charges. They estimated the expenses of building the east block at £573, 16s. 2d., and their income as follows:—

100 pupils at £2, 2s. each	£210
Collections	450
Interest on revenue	450
Advocates	50
Writers and Freemasons	180
Donations in kind and help	428
Yearly revenue	£1768

In this estimate (the Managers did not foresee the Rebellion of 1745) two things are noteworthy. The donations in "kind and help," wood, slates, glass, wool for blankets, and the assistance of the workmen. The workmen did much, and so did the Freemasons. In 1739 we find the Managers thanking the "most ancient and most Honourable Society of free and accepted Measons, and giving a preference to distressed Measons in one of their Gallarys."

At the laying of the foundation stone it is to be noted that "Infirmary friends" gave £98. "Erectors' friends" gave £34. This latter item requires a word of explanation. Certain Fellows of the Surgeons, with Deacon John Kennedy at their head—twelve in all—started a Surgeons' Hospital in North College Wynd in July 1736. They had their friends, as the Royal Infirmary (called by them the "Physicians' Hospital," as opposed to theirs, the "Surgeons' Hospital") had their friends. Fortunately an amalgamation took place in 1738, and the Erectors' Hospital was handed over to the Royal Infirmary along with their capital, £500. The Surgeons' Hospital was probably used along with other lodgings in the neighbourhood of the "little house" to accommodate patients. The building was sold in 1744 to Andrew Good, wright, for £170. The lease of the "little house" was given up in 1743.

Deacon John Kennedy was not a *persona grata* with the Managers, and they had their suspicions that the Erectors' Hospital was simply a blind to enable the Surgeon Erectors to get a footing in the Royal Infirmary. He made an offer and was asked "to put it in write." He writes that "wishing to do more for the sick poor than simply saying be ye healed and filled, we desire a coalition in the name of the Erectors," and signs himself "your most obedient and humble servant, John Kennedy."

The amalgamation took place just before the foundation stone was laid in August 1738. Peace reigned and the procession started from the Surgeons' Hall in the immediate neighbourhood.

About this time the Duke of Buccleuch gave £100, and General Wade £50. But on the 8th of March 1739 a lady, Mrs May Drummond, a sister of George Drummond, appears on

the scene. She was the famous preaching Quakeress; of her it was sung—

> "Happy virgin of celestial race
> Adorned with wisdom and replete with grace."

She was said "to outshine Theresa of Spain and was sufficient in herself to extinguish the malignant ridicule with which men assail the capacities of women."

She obtained a commission from the Managers. She was a very particular lady—her first commission having been soiled, she asked for a second. Through her endeavours (she was an eloquent woman and preached before Queen Caroline) much money came from England, especially from the Quakers. Newcastle glass-workers gave glass; the Barber-Surgeons of Newcastle gave £10; the Town Council of Newcastle £50. She was twice thanked by the Managers for her services. She was a power amongst the Quakers, and I cannot help thinking that possibly she may have given her brother George a helping hand to his fourth wife—the Quakeress with a dowry of £20,000.

Let us always remember May Drummond for her kindness to our Infirmary in its early days.

It is sad to note that she deteriorated in later years, became a kleptomaniac, and lost all her friends.

She travelled all over England collecting money for the building; and we find that in 1740 the Managers specially minute their thankfulness to the Quakers, and recommend the Professors of the several branches of Physick, Anatomy, Surgery, Pharmacy, Chemistery, Botany, and Mathematicks, to pay special and particular regard to the welfare of Quaker students—to assist them with their studies—as regards their examinations I suppose the idea was "Be aisy, and if ye can't be aisy be as aisy as ye can."

In this year the Prince and Princess of Wales gave £100 "as an earnest of what they would do in the future" "when it shall be more convenient." I wonder if the more convenient season ever came!

Scotsmen in all parts of the world were applied to, in Holland, France, Stockholm, Gothenburg, Dantzic, Jamaica, New England, Boston, Maryland, the colony of Rhode Island,

Providence, Antigua, and the Leeward Islands. They did not stop at Scotsmen. Thomas Penn, "one of the proprietors of Pennsylvania," the Archbishop of Canterbury—through the bishop of St Asaph—the Duke of Devonshire, then the Lord Lieut. of Ireland, and Dean Jonathan Swift in Dublin, all received letters, and in many instances gave efficient help.

As a result the Infirmary as most of us knew it was built and opened in December 1741; but it was a long time before the accounts were paid; and there is much evidence that the Managers were sorely put to it.

On the 1st of February 1748 the Infirmary had cost £10,597, 12s. 2⅔d., and the Managers were still owing £400.

It ultimately cost with some additions upwards of £12,500.

After the building was opened the Marquis of Tweeddale gave £100, and Lord Erskine sent yearly a sloop of coals to Leith from Alloa. But the Earl of Hopetoun may be said to have saved the situation, giving £400 a year—half his salary as one of the lords of police. In their darkest days the Managers were summoned for accounts unpaid. They each subscribed to pay law expenses: they were evidently personally liable. Luckily at this juncture Jamaica sent £500 which was divided equally amongst the creditors, and so the storm was stayed.

There can be little doubt that the Rebellion of 1745, assisted by the Earl of Hopetoun, saved the Managers, because they were paid for the soldiers and sailors who filled the building, "amounting on the whole to some thousands" (*Scots Magazine*, 1747). Soldiers were first admitted in August 1744 at 2s. 6d. a week for each. Along with the English soldiers came a regular "flesh dyet." Before that date flesh was a luxury and had to be prescribed by the physicians; the poor surgeons apparently had no power to order it. 2s. 6d. a week was found to be insufficient, and it was afterwards raised to 2s. 7½d.

Let me indicate the diet sheet in these early days, before the English soldiers appeared on the scene. Sundays and Wednesdays, for breakfast and supper, porridge and milk, or a "bap" weighing 6 ounces; dinner, rice and milk. Mondays, Thursdays and Saturdays, a mutchkin of ale to dinner.

Tuesdays and Fridays there was a special treat, a pudding for dinner; no milk and no ale on these days.

The pudding was as follows:—

2½ pounds of rice 6 pints of milk 3½ dozen eggs 12 ounces of sugar	Result—a pudding weighing 26 lbs. 4oz. for 36 patients.

That the Managers minuted this item and omitted the names of the Fellows of the Physicians who attended the patients is to me a perennial source of wonder. I wish they had left out the 4 ozs. in the weight of the pudding and given the names of the physicians!

Patients under mercury got bread and milk to supper instead of porridge and milk, an interesting change of diet, less heating than the porridge for the mercurialists. In the "little house" there was a "sallivating room," even with the very limited accommodation at their disposal.

Now, a few words about the "family," as the inmates were fondly called.

"The mistress or housekeeper shall be a woman free from the burden of children and the care of a separate family."

Mrs Nesbitt was the first matron; her life as matron was a short one, because she was soon discovered to be guilty of "great extravagancy," and dismissed for "charging more than she gave the patients." Mrs Waldie, recommended by my Lady Bruce, received her place. Her salary was at first £5, raised afterwards to £8 a year. It is interesting to note the inventory which she took over from poor Mrs Nesbitt:—4½ lbs. of small candles, 1 lb. great candles, 2 carts of coal, 6 pecks of meal, 2 pecks of bread, 4½ of groats, a peck and a half of sowing seeds (sowens, I suppose), and 24 Poppin's bottles full of ale.

Ale—the "barley wine" of dear old Isaak Walton—then cost twopence a pint = two English quarts—and was the drink of the country. Whisky was then, I suppose, endemic in the highlands; in the lowlands it was apparently unknown. Claret was the drink of the gentry.

Mrs Waldie was succeeded in 1744 by Mrs Waddell, recommended by the Earl of Hopetoun. She was in office at the end of the time of which I speak.

Henry Balcanquall, writer, was clerk during the whole period; and Mr David Spence, Treasurer of the Royal Bank, and afterwards Baillie Gavin Hamilton, bookseller, were treasurers. At the head of all was George Drummond, except when he was in London, and even then the Managers constantly applied to him for advice and would take no important step without his concurrence.

The post of porter was instituted in December 1741. John Forbes was the first to hold office. He came to sudden grief in April 1742. After repeated warnings he is accused of getting money from visitors, to the great prejudice of the Poor's Box, and of taking money from people to see operations. He is dismissed, and John Taylor is appointed. Three months after his dismissal John Forbes, who seems to have continued living on in the "little house," unbeknown to the managers, craves some help from them in his sad circumstances. They answer "that he had received much more drink money than all his services were worth," and they tell him "that if he did not clear out of the little house at once they will go to the magistrates." This answer to his prayer seems to have settled John Forbes.

An even more interesting man is the first Resident, Robert Mackinlay, engaged by Drummond in 1741—salary, £10 a year, which by the way he did not get till 1745. Robert had many duties all carefully specified. Among others, he had slowly to read over the cases at 3 P.M. to the students on Saturdays. He seems to have made an early endeavour to obtain 3d. a page for transcribing them for the students.

This sum the students would not pay. He then suggested 2d. History does not tell if the students were satisfied.

He is principally famous for his quarrels.

First with Mrs Waldie, whom he accuses of twenty distinct misdemeanours, for example—not making the famous pudding according to the Managers' order, keeping out six eggs and a pint of milk and substituting water; only giving two baps to three patients instead of one to each; constantly entertaining friends and giving them *tea* (this is the first time —1743—that the liquid is mentioned); making the sack-whey into possett for her own use; and rough speaking to the patients.

Not content with attacking the matron, he takes a higher flight and tilts at the respected treasurer, Mr David Spence, who, after demitting office in consequence of age and infirmity, is accused by Robert Mackinlay of many things, the principal of which being that he substituted for the physicians' prescriptions the drops of a German called Dr Maximilian.

Mr Spence appealed to the Managers against Mackinlay's "abominable indignities" and "most groundless and wicked calumny and reproach." Mackinlay's answer is delightful. He says, "he does not wish to add fresh fuel to the fire, and begs humbly to acknowledge his error."

The Waldie-Mackinlay row gave much trouble to the Managers; both parties are reprimanded—a drawn battle. The Spence-Mackinlay contest ended very differently. Mackinlay is rebuked for his impertinence, is censured, and humbly apologises to avoid dismissal.

One interesting minute tells how the Provost of Aberdeen visited the Infirmary and interviewed Robert early in his career as Resident, and desired him to write out a scheme of ye books. Robert will do nothing without an order of the Managers, and so gets rid of the Provost of Aberdeen. All this is carefully noted. There is no evidence that the Provost had any help.

I cannot find that he had any diploma, and it is probable he had not, because it is minuted that his successors must have some medical knowledge. They were appointed in 1747—Mr Petrie and Mr Sutherland—at a salary of £10 a year each. Mackinlay, I fear, left in disgrace, because he is bound to pay his successors for "working up his book." I fear a somewhat quarrelsome and unworthy—perhaps sorely tried—though lazy prototype of the race of residents.

The nurses were appointed by the matron; soon we find them complaining that they required servants under them to "clean up." They are accused by the women patients of giving the male patients their porridge first. The Managers—chivalrous men—quickly put this right; the women in future are not to get cold porridge.

In 1745 the meetings of the Managers are often dissolved in the absence of a quorum; but when Prince Charlie was living in Holyrood the Managers found time to order two

garden seats "at the most frugal rate." Shortly before this time a wall had been built cutting off the University Physic Garden from the Infirmary grounds, hence the necessity for garden seats on the terrace. From the beginning the University authorities had kindly given the patients a right to walk in their garden.

Water is laid on from the town reservoir—£9 a year spent on cartage of water is thereby saved. A sewer is built down Robertson's Close to carry off the rain water.

Baths are instituted, on Monro's suggestion, in 1747. He had probably in his mind the famous bagnio which gave the College of Surgeons so much trouble, and the baths of the College of Physicians. The surgeons, in 1735, sent in a memorial to the Managers asking that a professed lithotomist be appointed. They say that such an appointment "would add to the reputation of the hospital, prove advantageous to the country, and encourage charitable people to make donations to the stock." George Balderston was appointed to "cutt for the stone." He does not seem to have been a success, because he left the country in 1738.

It is interesting to note in this connection that in 1741 the town of Edinburgh asked the College of Surgeons to appoint a town's lithotomist. The College, however, would not.

In 1744 a gentleman signing himself Taylor, oculist to His Majesty, asks leave to lecture to the students in the operating theatre. This is the famous Chevalier Taylor, *eques anglus*, the peripatetic oculist to whom Dr Argyll Robertson refers in an introductory lecture to his course on Eye Diseases. The request is refused unanimously.

I have not time to dwell on the patients and their diseases.[1] "No incurable case was admitted, none very old or decrepit, no idle vagabond beggars, no tedious lingering disease, such as

[1] I find in the *Scots Magazine* for 1747 that 676 patients were admitted in 1742-6 inclusive :—

317	cured.
108	recovered so as to be able to go about his business.
60	irregularities and own desire.
146	incurable.
45	died.
676	

King's evil, or malign infectious ones such as French pox or itch, etc."

P.M.'s were obtained with difficulty. Five Managers had to sign the permit, and leave was only granted when some good would come of the examination. Complaint was made to the Managers that certificates obtained by patients were used for begging purposes. The Managers ordered that they were not to be given in future.

When the Managers were very hard up, they appointed a committee to consider what employment the patients could do, "whereby something may be gained to the house, their cure advanced, and the bad effects of idleness prevented."

In January 1846 the visitors report that there were nine men and three women in one ward. This must surely be a mistake.

The students were divided into two groups—students and apprentices. The latter at first only paid £1 a year; in 1748 all paid alike, £2, 2s. a year. Mr George Cunninghame, surgeon, had charge of the tickets.

I note occasional trouble with the students, but on the whole, much good feeling, excellent rules and regulations, and constantly gratis tickets given to poor students.

Two students return in 1746, "having had to leave the country." They ask that their old tickets may count for the

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I note here the more important diseases—

Ague,	10
Amputations	31
Cancer extirpated,	23
Fistula in Ano,	12
Fractures,	23
"Hysterick,"	16
Leprosy,	6
Obstructions,	10
Palsy,	23
Phthisis,	15
Rheumatism,	45
Scurvy,	37
Stone,	29
Eye diseases,	46
Scorbutic ulcers,	152
White swelling of joints,	23
	501

coming year—this is granted. Whig as George Drummond was, there must have been a strong Jacobite element on the Board. After Culloden, the Duke of Cumberland gave £50. The bare fact is noted, no thanks given, another evidence of a strong Jacobite tendency.

Almost every minute contains allusion to the admission of lunatics, and almost in every case at reduced rates. An early example of the *Patet omnibus* motto is that "John Bull" is one of the first to be admitted to the lunatic cells.

An apothecary's shop was started in 1748 to relieve the surgeons who had supplied the medicines since 1729. The first apprentice in the shop was Adam Glass, a "George Watson's boy."

Two druggists in the town tried to get a feu of the ground to the east of the building. As wise men, the Managers, even although practically penniless, refused the offer, because at a future date they might require the ground. On that site the Surgical Hospital was built in 1853, between the High School and the Medical House.

The following figures show the causes of death in the whole town at the same period:—

Mortality Bills of Edinburgh and West Kirk Parish, 1746.
Total number, 1712.

Aged,	91	
Childbed,	43	
Chincough,	92	
Consumption,	323	
Convulsions,	82	
Fevers,	393	Malignant fever. Scarlet ,, Spotted ,, Purples.
Measles,	92	
Smallpox,	128	
Suddenly,	74	
Teething,	98	
Executed,	6	
	1422	

In the minute-books it is stated that—

In 1742 there were admitted 155 patients.
,, 1743 ,, ,, ,, 158 ,,
,, 1744 ,, ,, ,, 165 ,,

But 123 of those admitted in 1744 were soldiers; and from that time till 1747 the patients were, with few exceptions, soldiers.

In 1747 there were admitted 131 patients
,, 1748 ,, ,, ,, 168 ,,

The old house, immediately to the east of the main building, where, when many of us were students, Mr M'Dougall—"the Boord," as we irreverently called him—and the resident physicians lived, was built by the Managers in 1742, and rented to the Countess of Haddington, a most troublesome tenant, always wanting something done, when the poor Managers had so little to give.

Even when at their poorest they were always doing kindly things, helping Mrs Waldie to pay her debts, remitting the fees for the maintenance of lunatics, and, as I have already said, giving gratis tickets to poor students. In 1745, because "there were no magistrates," they took Martha French in as a lunatic gratis for a year. In 1746 it is noted that the magistrates had returned, and poor Martha is removed from her comfortable quarters to a cell in the House of Correction. A poor boy comes from the far north with itch. They cannot send him home; it is too far, and they put him in a lunatic cell until he is recovered.

In February 1748 we have the germ of clinical teaching, Dr Rutherfurd suggests giving clinical lectures, but says that. as he found students wishing to attend who had no Infirmary tickets, he would therefore delay till the beginning of the next session in October, when the Infirmary tickets were issued. The Managers, again showing their kindly interest in the students, and their wisdom, said, "Begin at once, because lectures will be of great service to the students and *an advantage to the House.*"

Surely these men were enlightened, kindly men, well worthy of our remembrance. In fact, I have only touched on the fringe of an intensely interesting subject.

May I hope that some day an authentic history of the dear old Infirmary will be written. It was the heart of our School from 1729 to 1880.

I thank our good friend Dr John Smith for much help in laying these crude jottings before you. It has been said that the history of a time is best illustrated by attention to little details. This is my excuse for the nature of these reminiscences. They perhaps give you some idea of the early struggles of the men who founded our Infirmary.

Harveians, I thank you for electing me President for the

year. My duties, thanks to the secretaries, have been light. I have been specially blest. Four secretaries have ably assisted me in the preparations for the festival. Our old friends Crum Brown and Cadell resigned in March, and their places were taken by Boyd and Dowden. At this festival they have all been on duty. I am sure you will cordially join with me in thanking our old friends for all they have done for the Society, and that you will with me unanimously wish their successors a prosperous and happy career of useful happiness. These thanks and good wishes will, I trust, be successfully entered on at a more appropriate time—after we have had our dinner. The so-called Oration is intended, as Montaigne points out, "to give you a healthy thirst." It is only an appetiser for the good things that are to come. We now adjourn to the most important function of this festival, from which I trust I have not kept you too long.

THE TREATMENT OF CATARACT BY SIMPLE EXTRACTION

By ANDREW WILSON, M.D. (Glas.),
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THE operation of simple extraction has a more limited range of applicability than that of combined extraction, in so far as it is possible by the latter method to treat every case of senile cataract, while, by the former, it is advisable to attempt operation only in those cases which are normal or uncomplicated.

The advantages of simple extraction are that the least possible injury is done to the eye, and, in successful cases, the appearance of the eye remains unchanged, the pupil remaining central, normal in size or, more commonly, slightly smaller, and fairly active. The beneficial effect of a small central opening in the iris diaphragm is thus retained.

The special optical task the iris has to perform in the act of vision is, through the varying size of the pupil, to regulate the amount of light entering the eye. With a large pupillary opening, even when the central rays are accurately focussed, there is always a certain amount of blurring from spherical aberration and from the excessive amount of light which falls

on the retina. If the pupil of a normal eye be dilated, the advantage of a small opening opposite the visual zone of the cornea is seen by the immediate improvement in the sight which takes place on looking through a stenopaeic opening in a disc held close in front of the eye, and the improvement in the sight is all the more marked when an error of refraction is present.

When no glass correction is worn after cataract extraction, the ametropia is so great that the size or shape of the pupillary opening is a matter of indifference, since the luminous rays from any object cannot come to a focus near the retina, only falling on it in large circles of diffusion; but when the proper optical correction is worn the condition of matters is very different, and the patient with a small circular pupil has a very distinct visual advantage.

After cataract extraction any one pair of glasses only enables a patient to see objects in absolute focus at a single distance, as the removal of the lens destroys the power of accommodation; but while a patient on whom simple extraction has been performed has the prospect of a greater distinctness of vision at the corrected distance, the small pupil also enables him to have a limited range of distinct vision, as the blurring, due to diffusion circles, which occurs when an object is carried further away or nearer than the distance the combination of the lens and eye is arranged to accurately focus, does not then become so quickly troublesome.

The simple operation is best suited for cases in which the cataract is fully matured; where the nucleus is large, with little soft cortical matter; where the iris is active and healthy, dilating readily under the application of a mild mydriatic; and where the tension of the eyeball is fairly normal.

Cases which present any complication or unusual condition, whether in the eye itself or in the general state of the patient, are best treated by the combined method, as an iridectomy makes the operation more easy, and in such cases it is nearly always impossible to get a high standard of visual acuteness after any operation.

Daviel's operation for the extraction of cataract was performed according to the method now called simple extraction.

The operation was frequently a failure, and the losses were

largely brought about by septic infection of the wound; and though the operative results became better as the technique of the operation was improved, the failures still formed so considerable a percentage of the cases treated as to make operators try to introduce improvements in the method of operating. After trouble from prolapse of the iris must also have occurred very frequently in those eyes which escaped destruction by suppuration; but it is interesting to note that the first change in the method of opening into the anterior chamber, and most of the subsequent changes in the style of incision, were introduced with the primary idea of warding off suppuration of the cornea.

Graefe's linear corneal incision aimed at this by doing away with the corneal flap which was looked upon as the cause of disaster in Daviel's operation. Jacobson's peripheral flap operation and Graefe's modified peripheral linear section tried to reach the same end by making the wound in the vascular sclerotic instead of in the non-vascular cornea; and even De Wecker, in the three millimetre flap operation, had the danger of suppuration before him, although the ever-present dangers of escape of the vitreous and iridocyclitis, which so often led to failure after Graefe's peripheral extraction, caused him to abandon the extreme peripheral position of that section, and to adopt as a compromise a plane of incision which lay midway between the lines of the Graefe and Daviel sections.

The dread of suppuration does not now haunt the operating surgeon, and a flap wound, entirely in the clear cornea, is expected to heal as kindly or even better than an incision in the sclerotic.

In simple extraction the plane of the section should lie entirely in the clear cornea at the periphery, and in this position it has great advantages over any other line of incision.

In the first place, the incision being entirely in the clear cornea, no vascular channels are opened up, and consequently no bleeding occurs from the section to prevent a clear view of the corneal opening being obtained all through the operation, or to hide the iris and lens by filling up the anterior chamber.

But the position of the section in the clear cornea gains

its chief importance from the fact that, so situated, it causes little or no weakening of the structures which go to strengthen the ciliary region.

One of these structures, and to my mind a very important one, is Descemet's membrane. Descemet's membrane, over the central area of the cornea, forms a very delicate structureless layer; but unlike Bowman's membrane, on the anterior surface of the cornea, which gets thinner and gradually disappears at the periphery, Descemet's membrane becomes thick enough at the periphery to be of some importance as an annular ligament. From this peripheral ring bands pass in three directions, one going to the sclera, another to the ciliary body, and the third to the iris. If the section be made too near the periphery of the anterior chamber this part of Descemet's membrane is divided by the incision, and consequently the parts to which it gives support must of necessity become weakened, and the loss of support favours in no small way the inclination of the iris and vitreous to prolapse.

For this reason alone it is important to make the incision purely corneal, and in adopting this plane of section we return to the line of incision which was in vogue 150 years ago—a flap incision in the clear cornea.

The question of interfering with the iris did not seem to trouble the older operators, as they appear to have been content to leave the iris severely alone. The special discussions on prolapse of the iris and the different measures adopted to prevent its occurrence date from the introduction of Graefe's linear corneal incision. The manipulation necessary o remove the lens through the comparatively small corneal wound in that section was bound to be attended by pretty severe bruising of the iris, with a consequent temporary impairment of its tonicity. Under such circumstances a prolapse through the corneal wound or, short of prolapse, an adhesion to the back of the wound readily occurred. To hide this defect it was first proposed to make the incision in the upper part of the cornea so that the upper lid would cover up the deformity to which such adhesion gave rise. But as the upward operation in those days was attended by considerable difficulty, owing to the operation being most frequently performed without the aid of any anæsthetic, and as the iris

adhesion to the corneal wound was often found to be a source of after trouble, an excision of that part of the iris which would be likely to become attached to the corneal wound was proposed in 1862 by Mooren and generally adopted, the iridectomy at first being done some weeks previous to the extraction, but by the later operators more commonly at the time of the extraction.

With Jacobson's section an iridectomy fortunately never was omitted, for, from the extremely peripheral position of the incision, prolapse of the iris was bound to occur; and with Graefe's peripheral linear section not only was an iridectomy equally demanded, but it was necessary to make an iridectomy of very large size. The excision of the iris here required to be co-extensive with the wound opening the anterior chamber, otherwise the gaping wound favoured prolapse of the pillars of the coloboma or their ready adhesion to the back of the cornea. De Wecker's section, being a flap section and not so peripheral in position as Graefe's linear section, was not associated with so marked an inclination towards prolapse of the iris, and as a result the excision of the iris required to be much smaller.

The undoubted improvement in the visual results following extraction with a small iridectomy, as in De Wecker's three millimetre flap operation, led after a time to the gradual re-introduction of extraction without iridectomy, although the rooted fear of prolapse of the iris still prevents many surgeons from assenting to this method of operation.

On reviewing the different operations which have been employed for the extraction of senile cataract during the past sixty years, it will be seen that the necessity for an excision of the iris was primarily, if not entirely, due to the character and position of the line of incision adopted in opening the anterior chamber, and that the changes in the position of the line of incision had chiefly in view the warding off of suppuration of the cornea. Many of the operators who took a leading part in the reintroduction of simple extraction spoke of iridectomy as "an unnecessary mutilation of the iris." This expression is scarcely justifiable, however, when we remember the reason which led to the change in position of the opening into the anterior chamber, a change which demanded an excision of the

iris as a safeguard against after trouble; but now that it is possible to safely revert back again to a corneal flap section, there is manifestly no reason for performing an iridectomy as a habitual practice in cataract extraction.

For the operation of simple extraction the patient is prepared by having a bath and a purgative on the evening before the operation.

The skin of the face is thoroughly washed with soap and water, and then firmly scrubbed with 1-5000 bichloride of mercury lotion two or three hours before operation, special attention being paid to the ciliary border of the eyelids. After this washing a pad of sterilized wool, moistened with bichloride lotion, is fixed over the eye to be operated on, and remains in position until the patient is on the operating table. For the subsequent washing out and cleansing of the conjunctival sac, sterilized normal saline solution is used, and a 2 per cent. solution of hydrochloride of cocaine is the anæsthetic.

Antiseptic methods have brought about immensely improved results in ophthalmic surgery, but, while that is so, there is no branch of surgery which has benefited so little from antiseptic surgery as the surgery of the eye. It is still impossible to render the conjunctival sac perfectly aseptic and to keep it so after operation. Solutions strong enough to have any value as germicides are contra-indicated, because the irritation to which they give rise in the bulbar conjunctiva and corneal epithelium has a very deleterious effect upon these structures, and destroys the chance of smooth healing after operation. The most one can hope for in the preparatory cleansing of an apparently normal conjunctival sac is to get rid as completely as possible of any micro-organisms by flooding them out by the free use of a bland sterile solution. If the conjunctival sac or lachrymal passages are not in a normal condition the necessary measures to ensure a cure of the pathological state should be adopted before the question of extraction is entertained.

The instruments to be used are carefully sterilized by boiling.

After the speculum is in position the upper part of the cornea, where the incision is to lie, is carefully swabbed clean.

A Graefe's knife is used for making the section, and the eyeball is fixed if necessary.

The incision lies entirely in the clear cornea, and extends through about the upper two-fifths of its circumference. After the section is completed the anterior capsule of the lens is divided with a cystotome by a T-shaped incision, the horizontal part of the incision, lying well behind the iris above, being made first.

The lens, which pushes forward on division of its capsule, is then delivered by pressure applied by means of two curettes. By this pressure the upper edge of the lens tilts forward and engages in the pupil. It is well to graduate the pressure carefully so as to allow the lens to dilate the pupil slowly in its passage. Very commonly the upper part of the iris is pushed out through the corneal wound before the widest part of the lens has passed through the pupil; but if no undue force be used in hurrying the delivery of the lens, there is no danger of impairing the elasticity of the iris.

Immediately the nucleus of the lens and any masses of cortical matter have escaped, the iris retracts spontaneously, and any remaining cortical matter can generally be coaxed out along the groove of a curette. In some cases I have used with advantage Teale's suction curette to remove cortical fragments which tended to disappear behind the upper part of the iris, and which could not be removed by an ordinary curette. It is important to get rid of these cortical fragments, especially if they tend to collect behind the iris above, for, if left, they swell up by imbibition of aqueous and interfere with the speedy union of the corneal wound, in that way favouring prolapse of the iris, besides being likely to give rise to hyperæmia of the iris or actual iritis. After clearing out the cortical fragments the iris is carefully stroked back from the corneal wound with a spatulum, and, after finally bathing the eye, the speculum is removed and the dressing applied. The dressing used is sterilized cotton wool, carefully applied in small pieces so as to fill up all inequalities of surface in order that the bandage shall give uniform support to the lids all over and around the eye. The dressing is changed and the eye examined daily. Very frequently the anterior chamber is closed when the eye is first examined and the pupil is contracted and central.

Atropine is, as a rule, instilled between the lids on the second change of dressing and daily thereafter. Both eyes are bandaged for the first four days. For the first forty-eight hours it is important that the patient should lie fairly quietly in the dorsal position, and always that he should be well nursed so as to make any spontaneous effort on his own part unnecessary. After the second day he may be allowed to turn about and gradually to help himself more and more.

Some operators prefer to operate by downward section when doing simple extraction, holding that a corneal wound in that position enables them to operate with greater facility, and allows of the more easy and careful inspection of the wound during the process of healing.

A few patients certainly experience difficulty in attempting to roll their eyes downward when the eyelids are held open, but any difficulty a patient has in rotating the eyes downward can always be overcome by instilling a drop of cocaine between the lids before the examination.

The upward section seems to me preferable, from the fact that it removes the corneal wound further away from the palpebral fissure, from the skin borders of which and from the lachrymal puncta any infective material is most likely to gain an entrance into the conjunctival sac; and also from the fact that, if prolapse unfortunately does occur, the coloboma formed by the excision is then in the most favourable position to cause least interference with the ultimate visual result.

The chief argument urged against the operation of simple extraction is the liability of the iris to prolapse which accompanies it.

Anyone who realises the mechanism of prolapse will recognise that it is absolutely impossible to prevent in every case either prolapse or adhesion of the iris to the corneal wound in the process of healing, and also that it is impossible to foretell with any accuracy those cases in which prolapse will occur. Still the risk of prolapse is not great; indeed, it is not greater than the tendency of the pillars of the iris coloboma to become incarcerated in the angles of the wound, or adherent to the cicatrix in combined extraction. The opponents of simple extraction are, however, apt to forget that combined extraction is followed by incarceration of the iris and cystoid cicatrix in

quite a number of cases. Graefe wrote, forty years ago, "Small prolapses into the temporal angle of the incision are not uncommon, and incarceration of the iris in the inner aperture of the wound is frequent," and that statement remains still true to-day.

Knapp's recorded cases show 4·2 per cent. of prolapse of the iris in simple extraction, and yet he says, "Simple extraction has yielded me greater distinctness of vision, fewer failures, and better final results than any other method." [1]

Schweiger, in reporting 208 cases of simple extraction, states that he had 12·5 per cent. of prolapse, 10 per cent. requiring abscission, and still he writes, "The good results far surpass those obtained by other customary methods of operating." [2]

I have now performed this operation thirty-eight times with one prolapse. The cases were in no sense picked cases, as they include all the senile cataracts on which I operated on in 1902.

The case in which prolapse of the iris occurred was one of the last cases operated on. Before the corneal section was completed, the iris, owing to the escape of the aqueous, fell forward slightly in front of the blade of the knife, and to avoid cutting the iris, the incision was completed by bringing the knife out straighter than usual, making the incision somewhat linear.

At the time of the operation the advisability of doing a combined operation was thought of, but the iris retracted so normally that an iridectomy was not done. On dressing the eye twenty-four hours later, the pupil was quite small and central, but the wound was still open, and any movement of the eyeball showed that it tended to gape slightly.

The prolapse was present, without any complaint of pain having been made, when the eye was dressed at the end of the second day, and was then excised. The appearance of the eye now is similar to that in combined extraction upwards. The visual result in this case cannot yet be stated with accuracy, as there are some fragments of cortex still present. The presence of these cortical fragments most likely had a large share in the

[1] *Archives of Ophthalmology*, Vol. xxvii. No. 1, p. 94.
[2] *Ibid.*, Vol. xxvii. No. 3, p. 255.

production of the prolapse, which was rendered all the more easy by the linear character of the corneal section.

The immediate cause of prolapse of the iris is due to a sudden reopening of the corneal wound after its lips have been tightly enough adherent to allow of the reforming of the anterior chamber. When the wound opens owing to the restlessness of the patient, or from other cause, the aqueous come out with a gush, and that part collected behind the iris in the posterior chamber, in its rush to escape, carries the iris out in front of it. When reopening of the wound occurs in combined extraction, the coloboma is supposed to act as a sluice or gateway through which the fluid from the entire aqueous chamber flows without hindrance; but if only a small aperture forms at one end of the healing cicatrix, the pillar of the iris coloboma may quite readily be carried out by the rush of the escaping aqueous, and remain caught in the wound.

Various methods have been tried to prevent the occurrence of prolapse of the iris after simple extraction. The instillation of eserine is naturally the first means one thinks of; but the action of eserine is fleeting, and to have any influence at all as a preventative it would require to be instilled very frequently during the first two or three days after operation. Even then the contractional power of eserine would have little effect in withstanding the immediate disturbance in the balance of pressure which accompanies the sudden giving way of the corneal wound.

Suture of the corneal wound has been tried without any success so far as reducing the tendency to prolapse is concerned; but, on the other hand, it has frequently given rise to an attack of keratitis, starting from the suture, often complicated by the occurrence of severe iritis.

The most promising plan of dealing with the iris is that suggested by Schweiger.[1] He substitutes for the iridectomy an opening in the iris, a safety-valve opening, which remains open during the early stage of the recovery. In the case of reopening of the corneal wound, this opening in the iris allows the aqueous, which has collected behind the iris in the posterior chamber, to escape freely. Later on the opening closes up and ultimately heals, with very little visible cicatrix.

[1] *Archives of Ophthalmology*, Vol. xxvii. No. 3, p. 255.

The opening is made after the extraction of the lens is completed by pulling out the iris with fine forceps and making a peripheral slit in it near and parallel to its insertion.

I adopted this plan in eight cases with perfect results so far as the pupil and iris were concerned, but in the last two of these eight cases the incision of the iris was accompanied by a good deal of bleeding into the anterior chamber. The presence of blood in the anterior chamber, either from the iris or from the section wound, is to be avoided if possible, as it is in those cases in which this occurs that the epithelium of the lens capsule is specially apt to proliferate later on, rendering an operation for secondary cataract almost certainly necessary. The instillation of adrenalin solution before making the iris opening would in all likelihood prevent the occurrence of this hæmorrhage.

Secondary cataract means one of two things, either remnants of soft cortical matter, or thickening and opacification of the lens capsule.

Fragments of cortical matter are seen early, as they swell up and speedily become opaque by imbibition of the aqueous. They gradually undergo absorption, but their presence may give rise to iritis of a mild type, and in that way favour the development of genuine secondary cataract, which depends on a proliferation of the capsular epithelium of the lens. A severe iritis may even be set up by the swelling of fragments of cortex, and in such cases the secondary cataract is nearly always dense, owing to the amount of fibrinous exudate which adheres to the capsule and later becomes organised into a membranous film.

Statistics dealing with the frequency of operation for secondary cataract show great variation in the practice of different operators.

Some surgeons seem to operate very frequently, and others very seldom.

Theoretically, any secondary cataract, which interferes with the attainment of the highest visual acuteness of which the eye is capable, should be dealt with by operation; but no one can realise that high standard, for a patient may be unwilling to submit to further operative treatment if the opacity does not seriously impair his sight, since the surgeon cannot

assure him that the proposed operation is entirely devoid of risk. It is even difficult to tell in what percentage of cases secondary cataract follows extraction, as patients disappear, presumably content with the result of the primary operation, and this frequently happens in hospital practice.

The method of operating for secondary cataract which I have adopted for some years past is discission by Knapp's capsulotome, unless the opacity be very tough and membranous, when it is best treated by division by capsular scissors. The danger of operating by a tearing process, as when Bowman's needle is used, is the impossibility of avoiding dragging on the ciliary body, which, being the fixed point to which the capsule of the lens is attached, bears the brunt of any pulling strain. Discission by tearing may, from that cause, set up a low form of iridocyclitis, running a very tedious course, or, in exceptional cases, it may induce a violent attack of inflammatory glaucoma. Knapps capsulotome divides the secondary cataract by incising it, and a discission by this method reduces the dragging on the ciliary processes to a minimum, and is seldom followed by any reaction.

On going over the results of my last 100 extractions, I find that 62 were operated on with, and 38 without iridectomy. These numbers are quite large enough to allow of a comparison being drawn between the two methods of operating, since the conditions under which the operations were performed were practically identical.

Of these 100 extractions, all were dismissed with useful sight, no loss having occurred from any cause.

In the 62 combined extractions, escape of vitreous occurred five times, or in 8 per cent. of the cases, and in the 38 simple extractions there was no case of loss of vitreous.

In the combined extractions, adhesion of one or other pillar of the iris coloboma to the corneal wound occurred nine times, or in 14·5 per cent. of the cases, while in the simple extractions there was one prolapse of the iris, 2·5 per cent. In all the other cases the pupil was circular and central except in one, in which, owing to the occurrence at the time of the operation of a minute radial rupture of the pupillary border of the iris upward, the pupil remained slightly pear-shaped.

The number of secondary operations in these cases up till the present has been 18, or 29 per cent., in the group of combined extractions, and 5, or 13 per cent., in the cases operated on without iridectomy. Probably the latter number may yet require to be increased, as some of the cases are too recent to allow of this contingency being absolutely excluded. I think, however, it may be safely stated that operations for secondary cataract are not demanded with any greater frequency in the simple operation than in the combined.

The amount of vision obtained when a patient is beginning to go about again, gives but a moderate indication of the ultimate visual acuteness. It is only after three months or so, as a rule, that one can be sure of the final result. All the cases were tested three or four weeks after operation, but as a considerable number were afterwards lost sight of, I am unable to give absolutely reliable statistics regarding the ultimate state of the vision. Taking, however, the result obtained at this examination as the basis of comparison, the following table shows that the advantage is all in favour of simple extraction.

	62 *combined extractions.*	38 *simple extractions.*
V. = 1,	3 cases = 5 %	5 cases = 13%
V. = $\frac{1}{2}$,	4 cases = 6·5%	6 cases = 16%
V. = $\frac{1}{4}$,	27 cases = 43·5%	13 cases = 34%
V. = less than $\frac{1}{4}$,	28 cases = 45 %	14 cases = 37%

The ultimate test of merit is the degree of visual acuteness obtained by the operation, and I am quite convinced that the visual results following simple extraction are in every way better than those after operation by the combined method; and we cannot lose sight of the fact that, from a cosmetic point of view, simple extraction stands far ahead of extraction with iridectomy, since it leaves the eye apparently normal to the ordinary observer.

REPORT OF TWO SUCCESSFUL ABDOMINAL SECTIONS—INTUSSUSCEPTION IN AN INFANT; PENETRATING WOUND OF THE ABDOMEN

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THE two cases here reported are interesting from a diagnostic point of view. In both a serious condition was present while the symptoms were deceptive.

CASE I. In the absence of Dr J. H. Nicoll, I saw in consultation with Dr M'Pherson, Dennistoun, Baby W. æt. 4½ months, on the 25th November 1901. On the previous day the child had been given an enema, and shortly afterwards he began to vomit and to pass bloody mucus *per anum*. At that time examination of the abdomen revealed nothing. Next day as the signs of trouble had not abated and as a tumour had developed, Dr M'Pherson considered surgical interference to be requisite. At about 6 P.M., when I first examined the infant, there was a remarkable absence of the usual signs of intra-abdominal mischief: indeed the child was sleeping peacefully. Sickness had ceased. Hiccough had been present only occasionally during the course of the day. The temperature and the pulse were normal. The bloody discharge, however, was still going on, and there was a distinct swelling in the left iliac region. This was soft, movable only in an upward direction and not especially tender, as the manipulation did not cause the child to cry. The contented and placid appearance of the patient was most remarkable. Examination of the rectum revealed the fact that it was empty and caused a further discharge of blood-stained mucus, and it was evident

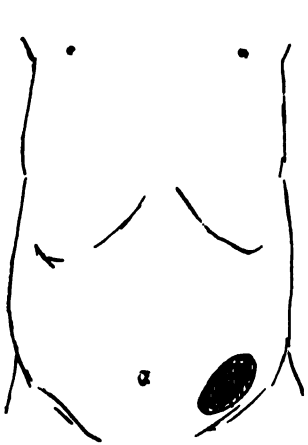

FIG. 1. To show position, shape and relative size of swelling.

that the mass in the iliac fossa was not connected with the lower part of the sigmoid.

Diagnosis.—Intussusception. In favour of this were the following:—

1. The sudden onset of sickness after the administration of an enema.

2. The discharge of bloody mucus.

Against this being the condition present were to be noted:—

1. The position of the tumour. Unless the intussusception had taken place in the large bowel, how could the cæcum become so displaced? The finger in the rectum disposed of the assumption that the intussusception implicated the sigmoid.

2. The limitation of the mobility of the swelling. This corresponded with what might have been expected had the swelling been the kidney or the spleen. The size also was appropriate, but neither the shape nor the consistence was that of either. Intestinal obstruction due to volvulus or a band might have been diagnosed, but the absence of swelling, the mildness of the symptoms, necessitated these causes being eliminated. Notwithstanding the anomalous signs I quite agreed with the diagnosis of Dr M'Pherson, and we decided to open the abdomen without delay.

Operation.—The child was taken to the Training Home for Nurses. Shortly after arrival, at about 8 P.M., I gave an enema through a catheter, but could not get it to be retained. The temperature was now 99° F., and the pulse 110. The tumour in the abdomen had increased in size. After all preparations had been made chloroform was administered by Dr Gilchrist. The child did not take the anæsthetic well and during the opening of the abdomen the respiration ceased. The usual remedies were successfully applied but the child continued to cause anxiety on this account all the time of the operation and made the manipulation more difficult. On opening the abdomen in the middle line, the colon presented, and on inserting the finger the colon was found to form a tight band crossing the abdomen and beneath which the small intestine was attempting to pass. The colon was anchored at the other end and the incision had to be enlarged, and the

intestines while being removed from under the colon, herniated. They were protected by dry gauze. The cæcum was then found to be the tumour in the left iliac fossa. The cæcum was involuted into itself till only the tip of the appendix could be seen (ileo-cæcal intussusception); the rest of the cæcum having become fixed by the mesenteric attachment, the small intestine had begun to enter the colon (ileo-colic intussusception). This it had done for about seven inches, and on account of the attachment of the mesentery—mesentery being placed

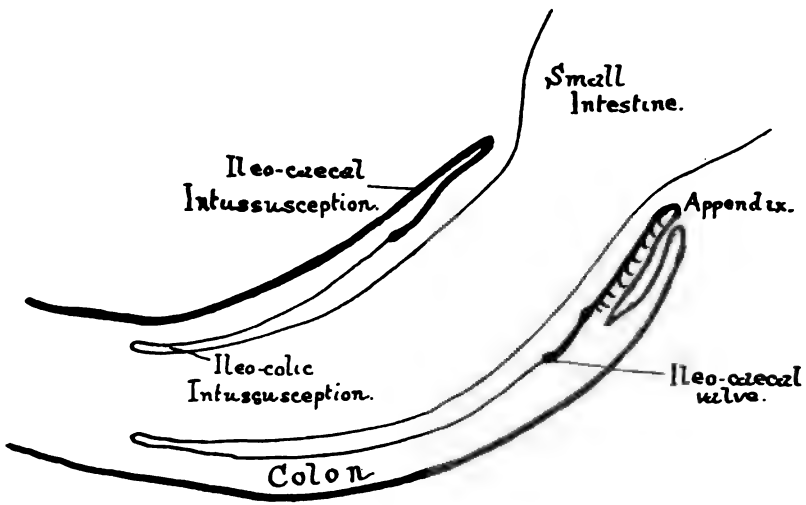

FIG. 2. To show the relation of the small to the large intestine in the intussusception.

more on the left side the cæcum was drawn over towards the left, *i.e.* the mesentery of the small intestine was less elastic than the attachment of the cæcum to the iliac fossa. The intussusception was then reduced by simultaneous traction and expression. The intestines were returned and the abdomen closed *en masse*. After the operation the child was pale and pulseless. Next morning flatus passed freely. The child rapidly recovered. The stitches were removed on the 13th day under chloroform, and the child was taken home on the following day.

CASE II. On the 28th of December last, Master N., æt. 12, was seen in consultation with Dr Burton, Bearsden. The

APPEARANCE OF WOUND IN SKIN AND INTESTINE.

PLATE I.—TO ILLUSTRATE DR MACLENNAN'S PAPER.

history of the case was as follows:—About 4 P.M., while attempting to insert a piece of glass tubing into a piece of rubber tubing, the glass broke. The end penetrated the abdomen. (He happened to be undressed at the time.) He then rushed downstairs to inform his parents of the fact, but could neither give any idea how far the end had penetrated, nor if he had had to pull the glass tube from the abdomen. He became sick and vomited. On examination, Dr Burton found that there was a small, almost circular wound in the middle line about 2½ inches below the umbilicus. (The umbilicus was very highly placed.) There was not much hæmorrhage. Dr Burton wisely desisted from probing the wound. A dressing was applied, and the development of events awaited. A partial recovery took place rapidly, and it looked as if things were favourable. Later (about 9 P.M.), however, he seemed to relapse a little. He did not complain much, but he was pale, and there was a tendency for the sickness to return. When I saw him about 10 P.M., his pulse varied between 115 and 120. He was pallid, and nausea was present. He had no pain. On removing the dressing, the small wound was dry. Around it for about one inch the skin was tumified (see Plate). Tenderness was localised to this region. There was no distension. On examination of the broken ends of the glass tube, some loss of glass could not be accounted for, and so the possibility of that glass being in the abdomen was kept in view.

Diagnosis.—The question was, had the glass tube penetrated the abdominal cavity?

In favour of it having done so were:—

1. The superficial wound could not account for even the slight general disturbance which was present.

2. The abdomen was rigid and board-like.

3. Examination of the broken ends of the glass tube revealed the fact that, though they almost fitted, they did not quite do so. The ostensible entering piece was shaped like a trocar.

4. On manipulation in the neighbourhood of the wound, a trickle of dark serum issued forth, showing that there was a deeper region involved.

5. Dr Burton had detected some emphysema round the

wound. I was not able to verify this sign, but the investigation was not pushed on account of the tenderness.

Against the view that penetration had taken place were :—

1. The small amount of disturbance caused by the injury.
2. The insignificant appearance of the wound.

It is very easy after a case is over to see which were the salient points, and the opinion that the peritoneum had been wounded was arrived at more from deductive reasoning than from any very striking signs which urgently called for attention. After careful consideration, I fully agreed with Dr Burton that the proper treatment of this case was to explore the abdomen.

Operation.—After midnight (eight hours after the injury) the patient was anæsthetised by Dr Burton, and with the assistance of Dr Cuthbert I explored the wound. The probe was inserted into the wound : it passed in an upward direction for little over an inch. A further trickle of the dark serum ensued. This sinus was laid open, and at its upper part a counterpart to the opening in the skin was found in the rectus sheath. The point of the glass had perforated the skin, and had then run along the surface of the rectus sheath, displacing the skin, and had penetrated higher up—thus forming a valvular opening. A fair amount of dark serum escaped when the wound was being enlarged. The abdominal cavity was found to contain a comparatively large amount of blood, fluid as well as clotted.

The seat of the injury was then sought for. A perforation in the omentum was first found, but no hæmorrhage of any moment had come from it. The entire small intestine was passed in review, but in the downward examination nothing abnormal was discovered. As the upper part of the small intestine would not come out of the abdomen without using some force, the wound was enlarged, and the coils of intestine occupying the left hypochondriac region were delivered entire. The first thing found then was a small piece of potato; and immediately after this, on separating a few coils, the source of the mischief blossomed forth.

Here the state of matters found was the following. The upper coil of intestine was perforated at its mesenteric attach-

ment. Bleeding had occurred from this wound. The coil next this had a piece of glass lying upon its surface, and close at hand there was a large perforation through its middle, involving both sides. The whole region was in a state of inflammation. There were greenish flakes of exudation, and the bowel was engorged. In the region the lymphatics were full, and appeared as a number of white lines converging together to form larger vessels; indeed they were more congested than the blood-vessels. The rest of the intestine was not in this condition. (See Coloured Plate.)

The openings in the intestine were stitched with a double row of Lembert catgut sutures in a transverse line. A further scrutiny of the abdominal organs revealed nothing more. On cleaning out the cavity of blood-cot it became evident that there must also have been bleeding from some other place. Separating the coils of bowel at the seat of injury and exploring the mesenteric attachment of the bowel to the spine, a small diffuse hæmatoma was noted extending into the free mesentery though mostly retroperitoneal.

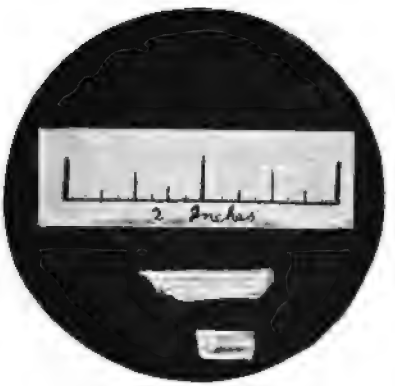

FIG. 3. The sharp point to the left had penetrated; the smaller piece shown below fitted on to and was in apposition with the larger piece. It completed the tube at this situation.

Exactly over the spine and at the side of the aorta a perforation of the peritoneum was found. There were signs here of recent bleeding. The glass tube had impinged on the right side of the aorta, had glided round it, and was brought up on the body of probably the third lumbar vertebra. The point had entered between the aorta and the vena cava. Immediately above the opening the pulsation of a large artery could be felt—probably the superior mesenteric. This opening was not further disturbed, but a strip of packing was inserted over it and between the injured intestine which was brought to the surface. The packing was inserted to indicate if any hæmorrhage took place. The abdomen was closed with silk-worm sutures. A considerable amount of

oozing ensued through this drain, and I am glad that it was inserted. The packing was removed under chloroform, and caused some faintness. With the exception of this, progress was uninterrupted. The piece of glass removed fitted both ends of the broken tube and corresponded to the total amount of tubing which had really penetrated the abdomen. How the large vessels in this situation escaped injury is marvellous.

Incidentally the mesenteric glands were observed to be much enlarged in this region; they were probably tubercular. The point is interesting from the bearing it has on the ingress of tubercle, and with reference to the statement of Koch that tubercle rarely enters through the bowel because primary intestinal tuberculosis is so rare. It is, however, no rarity incidentally to find enlarged mesenteric glands while operating in the abdomen for something else.

SIALOGOGUES: THEIR THERAPEUTIC EMPLOYMENT[1]

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THE term "sialogogue" has a quaint, old-fashioned sound about it, like that of "emmenogogue," or "galactogogue," and we are apt to think that the value of such agents as stimulate the flow of saliva, though made use of by former generations of practitioners, is practically nil, and that the members of this group of drugs ought to be relegated to the period of the stone pill or the powdered spider.

I hope, however, to be able to show that these drugs have a very distinct pharmacological action, and that we may take advantage therapeutically of the increased flow of saliva which they stimulate.

I would, however, by no means laud the virtues of saliva to the extent that a near namesake of mine did in a work which ran through many editions, and which was entitled "A treatise on the virtues and efficacy of a crust of bread eat early in the morning fasting; to which are added some particular remarks concerning the great cures accomplished by the saliva

[1] Read before the Edinburgh Medico-Chirurgical Society.

or fasting spittle, as well when externally applied as when internally given in the scurvy, gravel, stone, rheumatism, and divers other diseases arising from obstruction, etc. By a Physician" (8vo, London, 1756-1821-1844; N. Robinson, author).

I do not intend to speak of the employment of drugs given to increase the salivary flow in those rare cases where the secretion is greatly reduced, or even entirely absent. Such a case of complicated xerostomia has been very carefully recorded by Sir Thomas R. Fraser, and where the oral condition was successfully palliated by the topical application of a dilute solution of the nitrate of pilocarpin to the buccal mucous membrane. I should think that in this instance pilocarpin could hardly be called a sialogogue. After its application, the patient's mouth became slightly moist, due most probably to stimulation of the buccal glands. That the moisture did not originate in the salivary glands is evident, I think, from the fact that it had no influence in converting starch mucilage into dextrine or maltose.

Nor do I mean to treat of ptyalism induced by the internal administration of such drugs as mercury, pilocarpin, iodine, salts of copper, etc. I shall only refer to those substances which, by their local action, exert a sialocinetic influence, and to the therapeutic exhibition of such agents.

It is stated in some works on physiology that the salivary secretion varies in chemical composition as well as in physiological activity, according to the nature of the peripheral stimulus which has provoked it; that in some cases the secretion is copious, watery, faintly alkaline in reaction, with a low percentage of ptyalin; while, as a result of other stimuli, the secretion may be scanty in amount, but possessing alkalinity and amylolytic power to an intensely high degree.

This inquiry was directed to the elucidation of those agents or drugs which, when locally applied, were really provocative of true salivary secretion, and to find whether the secretion thus induced varied in its amount, alkalinity, or starch-converting power.

First, as regards the amount of saliva secreted.

Certain substances, and especially those which are warm or pungent to the taste, when chewed cause a rapid flow of

a watery fluid into the mouth. Does this secretion result from a temporary stimulation of the special nerves of taste or of the sensory nerves supplying the mucous membrane of the tongue, palate, mouth and lips, and does this stimulation induce a rapid, transient, or continuous secretion from the salivary glands?

To observe this, I masticated a portion of each of the substances noted below, for a period of thirty minutes, collecting and measuring the quantity of saliva so secreted every two minutes. In this way it was noted whether the flow was constant and uniform during the period under observation, or whether the flow was copious at first under the initial stimulus of the drug, but fell off in amount later, or *vice versa*. The experiments were invariably made in the evening, as Hofbauer has shown (*Archiv. f. die gesammt. Physiologie*, 1896-7, p. 513) that there is a very great variation in the composition of the saliva during different hours of the day.

The alkalinity of the saliva was estimated in each case by means of very sensitive litmus paper. When the sialocinetic agent was itself alkaline or acid, the amount of this was deducted.

The amylolytic or starch-converting power of the saliva secreted under these conditions was estimated in the following manner:—

A starch mucilage was made by boiling 10 grammes of powdered starch in half a litre of water for five minutes. Then 10 c.c. of this in a test-tube were placed in a water bath kept at a constant temperature of 38° C. When the mucilage had taken this temperature, 2 c.c. of the saliva secreted under the stimulation of each particular agent were added to the tube, thoroughly mixed and then kept at 38° C. for ten minutes. At the end of this interval the contents of each tube were rapidly boiled to prevent further amylolysis. The condition of the contents was then determined as regards its dextrinisation. The sugar was next washed out with numerous additions of water, and, after filtration, was estimated by titration against a standard Fehling's solution.

The following table gives the results of these experiments. The degrees of dextrinisation of the starch is not noted, as these are of little use in a table of comparisons:—

SIALOCINETIC AGENTS.

Stimulating Agent.	Amount of saliva secreted in 30 minutes.	Rate of secretion.	Amount of sugar formed by acting on 10 c.c. starch mucilage with 2 c.c. saliva for 10 minutes.
Normally secreted	11 to 18 c.c.	Uniform	0·12 gramme
Hot water rinsing	18	Not uniform	0·086 „
Bitter beer	18	„	0·125 „
Juniper gum	21	Uniform	0·116 „
Rhubarb root	21	„	0·03 „
Whisky and water	22	Not uniform	0·113 „
Mustard seeds	22	„	0·120 „
Sarsaparilla root	23	Uniform	0·104 „
Bael fruit	23	„	0·113 „
Coriander seeds	24	„	0·089 „
Pimenta	25	„	0·11 „
Catechu	25	„	0 „
Orris root	26	„	0·11 „
Cinnamon bark	26	„	0·113 „
Althæa radix	26	„	0·104 „
Carraway seeds	26	„	0·104 „
Ipecacuanha root	26	Not uniform	0·113 „
Anise seed	27	Uniform	0·118 „
Calumba	28	„	0·125 „
Orange peel	28	„	0·108 „
Squill root	28	„	0·116 „
Gentian root	30	„	0·108 „
Chamomile	30	„	0·121 „
Cinchona bark	30	„	0·106 „
Pine wood	32	„	0·113 „
Cusparia	32	„	0·120 „
Krameria	33	„	0·108 „
Pyrethrum	36	„	0·09 „
Colchicum corm	36	„	0·108 „
Ginger root	37	„	0·113 „
Horse radish	42	„	0·10 „
Piper nigrum	46	Not uniform	0·119 „
Potasii Tartras Acida	17	Not uniform	0·116 „
Borax	21	Uniform	0·04 „
Sulphide of Calcium	22	„	0·113 „
Nitroglycerine	24	„	0·119 „
Magnesium Sulphite	25	„	0·10 „
Alum	27	„	0 „
Ammonium Chloride	27	Not uniform	0·119 „
Soda Mint	31	Uniform	0·052 „
„ (after neutralisation)			0·108 „
Potasii Chloras	32	„	0·090 „
Potasii Nitras	32	„	0·114 „
Acidum Tartaricum	42	„	0 „
„ (neutralised)			0·024 „
Acidum Citricum	50	„	0 „
„ (neutralised)			0·113 „
Smoking tobacco	15	„	0·113 „

Quantity of Saliva secreted.—Under ordinary circumstances and without the local stimulation of any foreign substance, from 11 to 18 c.c. of mixed saliva are secreted every 30 minutes. The mere presence of an insoluble substance (as, for example, Juniper gum) in the mouth causes an increase in the flow of saliva. That it is chiefly the watery constituent which undergoes augmentation in such a case is evident from the lessened diastatic power of the secretion.

Rhubarb root can hardly be termed a sialocinetic, as its presence in the mouth calls forth but a scanty secretion.

Mustard is usually classed amongst the sialogogues, yet we find that it possesses but feeble properties in this direction, inducing a flow of but 22 c.c. Sarsaparilla root stands in a very similar position.

That there is some sialogogic property in pine wood is shown by the fact that its mastication induces a copious secretion of saliva.

Such bitter substances as calumba, cusparia, gentian, cinchona, exert a distinctly stimulating action on the salivary glands, while pyrethrum, ginger and colchicum stand still higher in the scale of sialocinetics.

Horse radish and black pepper hold the foremost place however, in promoting the flow of saliva, producing respectively 42 and 46 c.c.

It is surprising to find that substances so reputedly astringent as catechu and Bael fruit should stimulate a relatively large flow of saliva.

Passing to the action of the *non-vegetable* group we find that acid substances possess the greatest sialocinetic power. Citric acid leads to the production of 50 c.c. and tartaric acid to 42 c.c. Further down the scale we find chlorate of potassium and nitrate of potassium each with 32 c.c. Most of the other inorganic substances experimented with seem to act more as mechanical than as specific stimulants.

Alkalinity of the Saliva secreted under Stimulation.—In the whole series of experiments the alkalinity of the saliva secreted under the action of the different stimulating agents was found to vary within very small limits. It may therefore be stated that the alkalinity remained practically the same throughout all the experiments.

Starch-converting Power of Saliva secreted under the stimulation of various agents.—As a standard of comparison I took the amount of sugar formed by acting on 10 c.c. of starch mucilage with 2 c.c. of normal saliva secreted without any mechanical stimulation. The amount of sugar thus formed was 0·12 gramme.

A survey of the table shows that (with a few exceptions) there are no great divergences from this standard figure. The amount of sugar formed by the different examples of saliva varied from 0·09 to 0·125 gramme. Let us look at some of the exceptions.

(1) *Catechu.*—The catechu-tannic acid has precipitated the ferment and has prevented it from acting. Such saliva has no amylolytic power.

(2) *Rhubarb Root.*—This contains both chrysophanic and tannic acids, and these have also inhibited the ptyalin from acting.

(3) *Alum* has likewise restrained the action of the salivary ferment.

(4) *Borax*, as is well known, checks the action of such other ferments as diastase, yeast, myrosine and emulsine. In this case it has checked the converting action of ptyalin.

(5) *Soda.*—Alkaline salts are not nearly so energetic in their inhibitory effects on starch conversion as are acids. In this case, though the saliva was rendered highly alkaline by the soda-mint, yet 0·05 gramme of sugar was produced. On carefully neutralising the secretion with dilute acid and warming to 38° C. the amount of sugar soon doubled itself.

(6) *Hot Water.*—The saliva in this case was probably dilute from admixture with the hot water used in rinsing the mouth and so only 0·086 gramme of sugar was formed.

Turning now to the agents which induce a copious flow of saliva and glancing first at the organic substances we see that—

(7) *Piper Nigrum*, with 46 c.c. of saliva secreted, has a sugar-producing power of 0·119 gramme; and

(8) *Horse Radish* with 42 c.c. of secretion, produced in each experiment 0·10 gramme of sugar. Such agents act powerfully in increasing the flow of what is really normal saliva. They stimulate the secretion of a digestive fluid of normal composition.

Other agents which act as sialocinetics, though not quite so powerfully, are ginger, pyrethrum, colchicum, krameria, cusparia, pine wood, gentian, chamomile, cinchona, etc.

It is of interest to observe that krameria, though acting usually as an astringent from the tannin present, exerts a stimulating effect on the secretion of saliva, and this without lessening to any extent the normal proportion of the active ferment.

Many other vegetable substances have a very distinct action as sialogogues, though it is hardly so well marked as in the examples given.

Some advantage may even be gained by the sipping of whisky and water, in that it increases the flow of a saliva rich in ptyalin. Doubtless the more slowly it were sipped the larger would be the production of active saliva. On all grounds, however, it may perhaps be wisest not to include this agent in a list of sialogogues.

I have already shown that acid substances are the most potent in provoking salivary secretion. Thus citric acid induces a flow of 50 c.c., but the ferment is restrained from acting by the acid present. That it is not, however, destroyed, is shown by the fact that when the acidity is neutralised by the addition of a dilute solution of caustic soda, the amount of sugar produced from the starch mucilage is well up to the standard.

With tartaric acid, however, the case is different. Either the saliva secreted under its stimulation is very deficient in ptyalin, or the ferment is almost destroyed by the acid, for even after neutralisation hardly any starch is converted into sugar.

For practical purposes, it may be considered that the useful sialocinetic substances are confined to the vegetable kingdom.

The Therapeutic Employment of Sialogogues.—The above experiments were performed some years ago, and since then I have endeavoured to carry out in clinical practice the results then obtained.

When a digestive secretion fails either in amount or in one or more of its active constituents, then one's endeavours ought rather to lie in the direction of so stimulating the secreting glands as to promote a more normal action in them, rather than

in the administration of preparations which contain artificially-prepared digestive agents. Apart from other considerations, it is a self-evident fact that the long-continued employment of such digestants leads to a more or less permanent impairment of the secretory power of the glands thus vicariously re-inforced.

In the case of deficiency in the secretion of saliva, we find that certain authorities advocate the administration of some one of the numerous preparations of malt or extract of malt (many specimens of which are almost devoid of diastatic action), taka-diastase or even the dried parotid or submaxillary gland substance. Apart from being adventitious products, some of these substances act prejudicially on the organism, and frequently exert a disturbing influence on the processes of digestion and assimilation—malt, for example, has a very distinct retarding action on the digestion of proteid matters.

It appeared to me that in such conditions some of the substances which we have seen to be powerful stimulants to the salivary glands might be employed with good effect. A fairly large number of individuals find more or less difficulty in the comfortable digestion of starchy materials. Such persons are commonly said to suffer from amylaceous dyspepsia. Great benefit and even cure can be obtained in many of these cases by enforcing a properly slow mastication of such starchy food after the manner of the herbivorous animals. It is the usual practice to swallow soft, pulpy food without any mastication whatever, but it is of much less importance to masticate animal substances thoroughly than it is to properly insalivate amylaceous materials.

In the more aggravated examples of such dyspepsia I have found that the patients derived the greatest benefit from the slow chewing of some one of these vegetable agents which exert a distinct sialocinetic influence. The dyspeptic is advised to masticate the food slowly, and after the meal to chew for ten minutes or so one or other of the more potent and palatable sialogogues. I have never found in such cases that it was at all necessary to invert the order of the usual courses of one's meal. In the treatment of dyspepsia we find some authors advocating that proteid food should be taken quite apart and at different times from starchy food. Others again

suggest that the dyspeptic ought to commence the meal with the dessert, which is usually largely composed of starchy material. If care be taken to promote the flow of saliva, it is really unnecessary to subject the patient to such discomfort in feeding. When we remember that the period during which ptyalin remains active in the stomach is usually from forty-five to sixty minutes, or until free hydrochloric acid is distinctly present in the gastric contents, we see that there is abundance of time during which all the starch which has been consumed may be converted into dextrins and sugar and so absorbed.[1] Besides this, and as I have shown in a former paper ("Digestion of Starch in the Stomach," *Edinburgh Medical Journal*, May 1896), starchy matters undergo a more complete digestion in the stomach when they are accompanied by proteid matters.

Fifteen grammes of water-free starch form a fairly large amount for an ordinary meal. If this quantity be boiled in water for ten minutes, and when cool enough if 20 c.c. of saliva be added and the whole be kept at a temperature of 38° C. for an hour, it will be found that about one-third of the starch has undergone entire conversion into sugar, and a very large part of the remainder into soluble dextrines. If this degree of conversion takes place outside of the body, then we may reasonably suppose that a far larger percentage of starch would undergo entire conversion during its stay in the stomach.

In cases of hyperchlorhydria the onset of pain is usually delayed until some time after partaking of a meal. The greater the amount of carbohydrate and the less proteid food consumed, the more rapid is the onset of pain and discomfort. In ordinary cases of hyperchlorhydria the digestion of starch is soon brought to an end in the stomach, but Pawlow has demonstrated that the increased acidity of the gastric contents in such cases stimulates the pancreas to an increased activity, and thus a very complete and rapid amylolysis takes place in the intestine. Mathieu (*Maladies de l'Estomac*, Paris, 1901, page 195) has proved that in cases of hyperchlorhydria, micro-

[1] A recent series of observations has indeed shown that at the end of an hour free hydrochloric acid is either absent or is present in deficient amount. (Muller: *Verhand. d. physikal.-medicin Gesellsch. zu Wurzburg*, xxxv. 4, 1903.)

organisms are most numerous, and that the hydrochloric acid, even when present in large amount, is unable to restrain fermentations in the stomach.

Are we justified, therefore, in leaving starchy matters in the stomach to undergo decompositions induced by bacteria or fungi? Decompositions such as the following may result:—

$$C_6H_{10}O_5 + H_2O = C_4H_8O_2 + 2CO_2 + 2H_2$$
(starch) (butyric acid)

$$C_6H_{12}O_6 = 2(C_3H_6O_3)$$
(glucose) (lactic acid)

$$C_6H_{12}O_6 = 2(C_2H_5OH) + 2CO_2$$
(glucose) (alcohol)

The products of these and of other fermentative processes, not only by their local, but even more by their general toxic effects, frequently give rise to grave symptoms. That disordered states of the mind depend very largely on disorders of the digestive system is now well recognised, and the melancholia incident to dyspepsia is in reality an autointoxication.

In cases of hyperchlorhydria, our aim ought to be to secure the digestion of the amylaceous constituents of the meal before the free acidity has had time to check proteolysis. This we can do by increasing the flow of normal saliva. Besides this, the alkalinity of the saliva swallowed delays the period when free acid appears in the stomach, and so still furthers the action of the ferment ptyalin. Such a method of treating gastric acidity was advocated many years ago by Sir William Roberts, who suggested that patients suffering from hyperacidity ought to suck gelatine lozenges in order to promote the flow of saliva, whose alkalinity would neutralise the acid in the stomach. The amount of carbonic acid gas given off in this neutralisation is quite inconsiderable, and could not give rise to the gaseous eructations which some writers have ascribed to this process. The gases which develop in the stomach arise from bacterial fermentation.

In many cases of feeble gastric digestion the fault is due merely to a diminished activity in the gastric juice, both hydrochloric acid and pepsin being present in less than their normal amounts. When saliva is introduced into such a

stomach it has the effect of stimulating a more copious and also a stronger secretion, and so the more saliva which is introduced the larger is the amount of gastric fluid which is secreted.

In many cases such as I have described, I have found that a stimulation of the salivary secretion by means of palatable and pleasant vegetable sialogogues, as, for example, ginger, gentian, peppercorns, cusparia, etc., has been of the greatest benefit to the patient. By their employment patients have been enabled to partake of and to digest with impunity many amylaceous articles of diet which they previously had been obliged to forego.

In certain cases other means of treatment must first be employed, as, for example, multiple fermentations in the stomach must be treated by lavage and the exhibition of antiseptic agents, as salol, salicylate of bismuth, naphthol, etc. In cases of defective motility of the stomach, stimulation by massage, electricity and lavage must be employed in the first place, together with the internal administration of nerve tonics, as strychnine. Having by suitable means cured what may be termed these grosser affections, our simpler remedies may then be employed with benefit.

Such bitter agents as cusparia, calumba, gentian, chamomile, etc., which are powerfully sialocinetic, exert also a very beneficial effect on the gastric mucous membrane. Other salivary stimulants are at the same time carminatives, as pimenta, ginger, pepper, etc. We can thus obtain both actions from the same drug and employ them therapeutically.

There is rather a tendency at the present time to administer drugs in tabloid or palatinoid form. We ought not to forget, however, that in the exhibition of many drugs it is their local action which is most beneficial; thus the stimulating effect on the appetite induced by a bitter tonic is almost lost when the drug is given in pill or tabloid form.

I have found but few patients who did not persevere in the simple method of treatment which I have indicated, and the benefit obtained is usually remarkable.

I have ventured to bring this method of medication under notice, as I have not seen any allusion to it in the usual works on therapeutics, and I think that it will appeal to many both on account of its simplicity and relative pleasantness to the patient.

Clinical Records

CLINICAL NOTE ON ACUTELY OCCURRING DEAFNESS AND BLINDNESS IN CHILDREN

By ALEXANDER JAMES, M.D., F.R.C.P.Ed.,

Physician to the Royal Infirmary, and Lecturer on Medicine in the School of the Royal Colleges

IN 1867 Voltolini described a disease which he called Labyrinthitis, or Otitis Labyrinthica. He described it as occurring almost entirely amongst children, and manifesting itself by symptoms like those of a specific fever, with, however, the indications of cerebral irritation specially marked. Prominent amongst them, therefore, are shiverings, high temperature, headache, perhaps ear pain, convulsions, or insensibility. After three to eight days, the condition improves; but soon it is discovered that the child has become deaf. For a time after the improvement, giddiness is also noticed, but as the days pass by the giddiness disappears, whilst the deafness, more or less complete, remains permanent.

Similar cases have been described by other observers, but by most of them the pathological change is regarded as being not due to a primary labyrinthitis, but as being the result of an abortive form of cerebro-spinal meningitis.

Of such cases I had never met with an example until March of this year, when a very typical one presented itself. But, curiously, within two days of my meeting with this, another patient with a similar clinical history was brought to me, with the difference, however, that with the disappearance of the acute febrile symptoms, acute blindness, instead of acute deafness, had developed. Although those cases came from widely separate districts, and although I could get no history of epidemic trouble in either case, I believe that in both the pathological cause has been the same, and that they are both of sufficient interest to be worthy of record.

Agnes B., aged 13, was sent to me by Dr Melville of Penicuik, on the 5th March 1903. She was a particularly well-nourished and healthy-looking girl, and her only complaint was absolute nervous deafness. Her mother gave the following history:—

Her illness had commenced in the second week of the previous

December, and the main symptoms were fever and headache. The headache seems to have been specially severe in the back part of the head and neck, and there was great tenderness, the child crying out whenever attempts were made to move her in bed. There was no retraction of the neck, but some stiffness of the muscles. Vomiting was also a prominent symptom, and was stated to been incessant for two days and two nights. After a few days, the child seems to have become comatose, and to have remained so for some days. After about ten days, recovery occurred, and it was then noticed that her hearing was impaired, the child asking why everybody was whispering. In a few days the child became completely deaf. About six weeks from the commencement of her illness, the child was allowed out of bed, and then giddiness and incapacity to stand or walk was noticed. These last symptoms, however, have now disappeared, and except for the nerve deafness, the child is absolutely well.

James C., aged 7 years, was sent to me by Dr Dow, of Crail, on 7th March 1903. His complaint was complete blindness, of nine days' duration. His history was as follows:—

He had been a perfectly healthy boy in every respect until nine days previously. He had then become suddenly very ill, with high fever (104°), severe headache, sickness and vomiting. Those acute symptoms lasted for about three days, and then it was noticed that the right pupil was widely dilated, and that he was blind of the right eye. In the course of a day or two a similar condition was observed in the left eye. The acute symptoms having passed off, but the blindness persisting, Dr Dow sent him in to me to the Royal Infirmary. On admission he was found to be a perfectly healthy, well-developed, and well-nourished boy. He was blind, and had to be led about. His pulse was 72 per minute, temperature 98·8, coming down next day to normal, and remaining so. For a day or two, however, after admission, he complained of occasional rather severe frontal headaches.

On examination, all his organs and systems were found to be healthy, except his nervous, and of that only the eyes were affected; sensory, motor and reflex phenomena, and the special senses—hearing, taste and smell—being absolutely unimpaired. He was so blind that he could not see objects held in front of him; but he seemed to prefer to be in darkness, a bright light seeming to irritate his eyes. The pupils were widely dilated, especially the right, and they showed no reaction to light. On testing the movements of the eyes, it was found that conjugate movement to the right was slightly impaired; more so with the right eye.

With the ophthalmoscope, no definite changes in the fundi could at this time be recognised. A small quantity of the nasal secretion was examined. The diplococcus intracellularis meningitidis was not found.

March 21st. Patient's general condition remains excellent, and his headaches are less frequent and severe. Blindness persists, and distinct signs of optic atrophy are present in both eyes.

March 26th.—Patient's vision has been improving for the last few days. He does not focus on looking at objects, but he was able to-day to distinguish a knife from a pencil. The signs of optic atrophy are more distinct.

May 17th.—Although he has had an occasional headache, patient's general condition remains excellent. His vision has so much improved that he can go about the ward himself, and can count fingers in a good light, eight or ten feet off. The left eye is the better of the two. Both pupils are still distinctly dilated, but both contract slightly with light, the left eye showing this the better. The impaired conjugate movement of both eyes to the right has greatly disappeared. With the ophthalmoscope there is well marked white atrophy in both eyes.

Assuming that in these two cases the nature of the pathological process has been the same, the first deduction which we can make is one which tells against Voltolini's theory of an acute inflammation of the labyrinth. Had his theory been the correct one, we should have expected to meet with signs of an acute retinitis in the case of the boy J. C. on his admission.

Next, as regards the theory that the diseased conditions can be explained by a meningitis which as it were involves, compresses and causes atrophy in the auditory and optic nerves. Here, also, we have, I believe, evidence against. Apart from the fact that it is difficult to conceive of a meningitis picking out these nerves symmetrically and leaving other nerves unaffected, we have in the impairment of the conjugate movement of the eyes in the case of J. C., indications of a nuclear involvement.

The view which commends itself is, that, be it epidemic cerebrospinal meningitis or not, the lesion is one of a toxin involving the nuclei of origin of the auditory and optic nerves. Just as in the anterior poliomyelitis of children we have a toxin picking out the nuclei of origin of the nerves of the voluntary muscles, so may we assume that in this disease we have a toxin picking out the nuclei of origin of the nerves of hearing and sight.

For help as regards the literature and as regards the exam-

ination of the patients, I have to thank Drs M'Bride, Mackenzie Johnston, Sym and Paterson.

REFERENCES.

1. Voltolini. *Monatsschrift für Ohrenheilkunde*, No. 1, 1867.
2. Voltolini. "Die acute Entzündung des haütigen Labyrinthes des Ohres (Otitis labyrinthica s. intima) irrthümlich für Meningitis cerebro-spinalis epidemica gehalten." Breslau, 1882.
3. M'Bride. "Diseases of the Throat, Nose and Ear." Edinburgh, 1892, p. 586.

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SURGICAL CASES [1]

By J. SCOTT RIDDELL, C.M., etc.,
Surgeon and Lecturer on Clinical Surgery, Aberdeen Royal Infirmary
Reported by
J. H. STEPHEN, M.B., Ch.B., B.Sc.,
House Surgeon, Aberdeen Royal Infirmary

Trephining for Jacksonian Epilepsy.

DR RIDDELL showed this patient with Dr Ashley Macintosh. A man, aged 47, engineer, was admitted to the surgical wards in January 1902, suffering from Jacksonian epilepsy. This had started about the middle of December 1900, when one day he suddenly stopped short in the midst of a sentence and was unable to articulate for about twenty minutes, when the power of speech gradually returned. There were no objective symptoms at that time, but in January 1901, twitching of the angle of the mouth began, and this increased in frequency until he had well-marked Jacksonian fits every hour or so—these were preceded always by a feeling of numbness in the right thumb passing up the arm, and accompanied by a sensation of swelling of the tongue, then the twitching of the right angle of the mouth began, and lasted usually about half a minute or a minute.

While in hospital these fits came on every fifteen or thirty minutes, and lasted from fifteen to forty-five seconds, they were almost as frequent during sleep. The fit consisted of general clonic contractions of the muscles of the right cheek, drawing the external angle of the right orbit downwards, and the right

[1] Read before the Aberdeen, Banff and Kincardine Branch of the British Medical Association.

angle of mouth upwards, together with contractions of the platysma fibres over the right clavicle. No unconsciousness or cyanosis; sight and hearing, tactile and muscular senses normal; also senses of pain and temperature.

No history of syphilis could be obtained and antisyphilitic treatment produced no improvement. He had one general epileptic attack in February.

On 10th March 1902, patient was trephined. An omega (Wagner) flap was made extending from half an inch behind outer angle of left orbit to the meatus auditorius, and a circular piece of bone about two and a quarter inches diameter was flapped down by means of a Gigli saw conducted by Podrez' director through small trephine openings. The dura was found to be very congested over the exposed area. The dural vessels having been ligatured, the dura was flapped back and brain exposed. There was considerable hypertension of the cortical matter; and on electrical stimulation of the centres for the affected muscles, slight consequent contractions were elicited, but nothing could be seen or felt in the brain substance. The dura mater and bone flap having been replaced, a drain was left in the wound. Operation lasted fifty minutes. When patient recovered from the anæsthesia he started talking perfectly clearly. He made a perfect recovery without a single fit. A month after operation, however, occasional ataxic aphasia appeared, and this has persisted more or less ever since. Since operation he has had two or three general epileptic fits, but the localised fits have entirely ceased.

Cholelithotripsy and Cholecystotomy.

Dr Riddell read notes of the following case:—

Mrs H., age 63, was sent to hospital by Dr Lawson, November 23rd, 1902, with a history of several well-marked attacks of biliary colic during the previous six months. On admission patient showed all the classical signs of jaundice, and itching was very troublesome. Physical examination revealed a slightly enlarged liver and tenderness over the gall-bladder area. Urine contained bile and indican. General condition was good. Calcium chloride (15 grain doses thrice daily) was administered. No attack after admission, but jaundice persisted. On December 12th a vertical incision was made a little to right of middle line and gall-bladder exposed. Three small stones were found impacted in the ductus communis choledochus. These were successfully crushed between the finger and thumb, and then a cholecystotomy was done and gall-bladder drained by a tube.

One of the broken stones was removed through cholecystotomy wound.

The bile was sucked off at first by a syringe, but afterwards it drained into a receiving vessel. During the two days following operation there was a good deal of colicy pain—probably due to passing of stone débris along the duct to duodenum—which was relieved by morphia.

On third day gall-bladder was gently irrigated with sterile water, and patient took good nourishing diet by the mouth. On 17th December, five days after operation, stool was slightly coloured, and bile began to diminish by the fistula. On 18th, stool was distinctly coloured, and urine only contained trace of bile. Stitches taken out on 21st December, and tube removed on 22nd. On 24th, stools and urine were normal and fistula rapidly healing. Jaundice almost gone. On January 1st, 1903, wound had healed and jaundice was entirely gone, and patient left hospital on 5th January perfectly cured.

Case of Extrauterine Pregnancy.

Notes were read by Dr Riddell (with Dr R. G. M'Kerron).

Mrs C., aged 33, was admitted on January 23rd, 1903, with a large abdominal swelling.

History was as follows. Married twelve years. An only child eleven years ago, since when menstruation had been perfectly regular until October last, when she noticed absence of the menses. Pain in the abdomen started in September, and at the same time a tumour began to appear, which had grown gradually until admission.

On examination, a rounded tumour about the size of an adult head was found in the lower part of the abdomen. Palpation revealed presence of two distinct tumours, the uterus, much enlarged, pushed to the right side, and a much larger cystic swelling, dull on percussion, on the left. On vaginal examination the os was found to be drawn up above the pubis, and in front of it a bladder tumour was easily felt. Douglas' pouch was filled by a large, soft, fluctuating cyst, and ballottement was with difficulty elicited, thus making the diagnosis clear.

On 26th January an incision was made in the middle line, over the most prominent part of the tumour. On incising the cyst the hæmorrhage was so profuse that immediate plugging with iodoform gauze had to be resorted to, and the anæsthesia stopped. She was watched closely for further bleeding, but none supervening, she was again chloroformed on February 6th, and an attempt made to remove the plug, but the hæmorrhage was again so great that further interference was thought dangerous, and the cyst was again plugged and sutured up.

Nothing further was done for a fortnight, during which temperature continued normal, except during the last few days, when it ranged about 99° C.

On 17th February the cyst was opened by a horizontal incision in Douglas' pouch, and a completely formed five months' fœtus was delivered, cord tied, and placenta left *in situ*.

The after course of the case was perfectly normal. The cavity was irrigated daily from above with hydrogen peroxide, the discharge being very fœtid until 10th March, that is, twenty-one days after delivery, when placenta came away as a large slough, after which the cavity remained quite pure and gradually granulated up.

Case of Recurrent Carcinoma Mammæ treated by Beatson's Method, with Roentgen Rays and Thyroid Extract.

The patient was shown by Dr Riddell (with Dr Thomas Fraser).

The patient, Mrs C., age 37, was first admitted to hospital on 25th July 1898 with a small tumour in the left breast, which was diagnosed adenoma, and removed on 29th of that month. There was no glandular implication at that time. She felt perfectly well for some months, but then stinging pain recommenced in the same breast, and a small tumour began to form. She was readmitted to hospital on 2nd May 1899, when a typically carcinomatous mass, about the size of a small orange, was found in the breast, along with a small hard gland in the axilla. The breast was removed, and the axilla cleared by a complete Halsted operation on 6th May, and the patient was discharged after an excellent recovery on May 23rd. About the beginning of 1902, however, she noticed a hard swelling in the left breast, which commenced to ulcerate in August, so she was again admitted on November 1st of that year. On examination, there was found under the old scar a hard nodular mass firmly adherent to the skin, and covered by a raw ulcerating surface about two inches square. There was a good deal of pain and tenderness, and a hard gland about the size of a walnut in the axilla.

General condition of patient, apart from a very neurotic element, was excellent. Urine normal. She had been given thyroid extract by her medical adviser for some time previous to admission. This was continued in five-grain doses, and Roentgen rays were applied daily.

After a fortnight the ulcerating surface had diminished by about a third, and at the end of a month it had entirely healed, while the hard mass seemed to have got less in size. On 24th

November both ovaries, which were slightly enlarged and cystic, were removed. Patient made a perfect recovery, and the thyroid and X-ray treatment having been continued, she was discharged on 27th December, the hard mass in the breast and the axillary gland having entirely disappeared.

Since dismissal she has continued taking thyroid extract, and has come up to the out-patient department for X-ray treatment. There is no sign of recurrence, and pain is quite absent.

Nephrectomy for Complete Rupture of Kidney.

Notes of this case were read by Dr Riddell.

The patient, F. S., aged 25, fisherman, was admitted to hospital at 2.30 P.M. on November 15th, 1902. About eight o'clock that morning he had been severely injured on board a trawler, the abdomen having been crushed between a steel hawser and a thick stationary tube of cast-iron, round which the ropes are usually wound. The rope had passed in front about the level of the umbilicus, and had pressed him back on to the cast-iron tube.

On admission he was in a semi-collapsed condition. Temperature, 98° C.; respirations, 24, shallow; pulse, 90, and fairly good. Complained of great pain over whole of right side of abdomen, greatly increased by the slightest movement or pressure. Abdominal wall was very hard, and whole of right flank back and front was dull, also the right iliac and hypogastric regions. Although he had not passed urine since the accident there was no desire to micturate; but on being asked to do so, he passed ten ounces of urine highly mixed with blood. About one and a half ounces of bright red blood were then drawn off by a soft catheter.

On being called, Dr Riddell diagnosed rupture of kidney, and operated as follows:—Chloroform was administered, and the possibility of rupture of the bladder in addition having been first excluded by injection of a given quantity of warm sterile water, all of which was returned, the usual lumbar nephrectomy incision was made. There was great hæmorrhage from the perirenal space, and the kidney was found to have been completely divided by an oblique transverse rent into two parts, an upper small pole and a much larger lower pole, which showed also some minor rents. The renal vessels were tied and the fragments removed, and the large cavity tightly plugged with sterile white gauze. A small aperture in the peritoneum was noticed, through which the tip of the appendix vermiformis could be seen protruding; this was returned and the peritoneal rent sutured. During the anæsthesia patient's condition was not

satisfactory, but was considerably improved by strychnine and brandy enemata. Patient passed urine early next morning, with a considerable amount of blood in it. On 17th inst. there was still a trace of blood in urine, but there were none after that date.

The superficial dressings were changed every day owing to the heavy soakage, and the plug was taken out a week after operation and cavity irrigated. The after course was quite uneventful, and patient was discharged quite cured on December 27th. He has reported himself since, is doing his usual work, and is in excellent health.

Case of Hæmaturia due to Bilharzia hæmatobium.

A. A., aged 18, a slater, was admitted to hospital on February 16th, 1903, complaining of passage of blood in the urine. On inquiry it was found that he had gone out to South Africa as a volunteer two years before, and apart from a slight attack of dysentery, he had remained perfectly healthy until last July, when he began to be troubled by pain and itching at the meatus urinarius, along with increased frequency of micturition.

This continued for two months, when he commenced to pass blood in the urine. The blood varied in quantity, the urine sometimes being a brilliant red colour, and at other times it was quite clear, and only the last few drops contained blood. His condition was much the same in hospital; he had still slight pain at the end of micturition and an irritating itch at front of penis. No rectal hæmorrhage. The urine was faintly acid, contained albumin, blood and some pus corpuscles, along with numerous Bilharzia ova, oval, translucent, and with the characteristic spike at one end. No casts. General health was excellent. No marked anæmia. Ten minims turpentine thrice daily were given, but this seemed to increase the itch, so salol gr. 15 was given, and the bladder irrigated daily with weak calcinol solution. Treatment, however, did not produce much improvement, and he left hospital at desire.

Skiagrams were shown illustrating three cases of *Congenital Deformity.*

Ectopia Vesicæ.

The first was a case of *Ectopia vesicæ* in a boy 13 years old. The appearances presented were quite typical. There was the usual epispadias, and the right testicle was retained in the inguinal canal. The skiagram showed wide separation of the pubic bones. Operation had been declined, and the patient

was fitted with a specially made indiarubber shield and reservoir, which proved of great service.

Congenital Hip Dislocation.

The next was a case of congenital hip dislocation in a girl two and a half years old.

The skiagrams showed the position of the head of the femur before and after Lorenz's operation.

Absence of Tibia.

A skiagram was shown of a case of absence of the tibia in a female child 15 months old.

Only the head and about an inch of the shaft of the tibia were present, and the fibula was much thickened. The characteristic deformity of the foot was present.

Meetings of Societies

Edinburgh Medico-Chirurgical Society

THE ninth meeting of the Society was held in the Royal Infirmary on the 20th May—Sir Thomas R. Fraser, President, in the chair.

Mr Alex. Miles showed: (1) Four patients after operation for perforated duodenal ulcer. (2) A patient illustrating the comparative results of Chopart's and Syme's amputations.

Dr G. A. Gibson showed a patient with Addison's disease in whom there was great mucous membrane pigmentation.

Mr F. M. Caird showed: (1) Two cases after removal of gastric carcinoma. (2) Case of enterectomy after operation by colotomy for obstruction. (3) Case of operation for gangrene of the gall-bladder. (4) Case of removal of carcinoma of the bladder. (5) Preparations removed from some of the cases exhibited.

Dr Norman Walker showed a series of cases of lupus, with photographs.

Mr Charles W. Cathcart showed: (1) Patient after laminectomy for paralysis. (2) Patient after short-circuiting small intestine for fæcal fistula. (3) Patient showing results of unusually severe whitlow. (4) Patient showing development of epithelioma in lupus on both sides of the neck.

Dr Alex. James showed: (1) Case of so-called acute laby-

rinthitis (Voltolini). (2) Case with similar symptoms, but associated with blindness and optic nerve changes. (3) Patient with cardiac displacement resulting from phthisis and pleurisy.

Mr Alexis Thomson showed: (1) Patient after operation for osseous ankylosis of the jaw. (2) Two cases after excision of the shoulder for tuberculous disease.

The following card specimens were exhibited:—

By Mr Cathcart, cast of cancrum oris.

By Professor Chiene: (*a*) Prostatitis illustrating prostatectomy. (*b*) Chondro-sarcoma of the testicle. (*c*) Endothelioma. (*d*) Necrosis of the tibia. (*e*) Renal calculi.

By Dr G. A. Gibson: (*a*) Heart and lungs in mediastino-pericarditis. (*b*) Tracings from patients showing pulsus paradoxus. (*c*) Iodophilic blood from cases of lymphadenoma and leukæmia.

THE tenth meeting of the Session was held on the 3rd June —Dr Charles E. Underhill, Vice-President, in the chair.

Dr Chalmers Watson exhibited: (*a*) A case of ichthyosis, and showed sections of the skin of a seventh month fœtus, sister of the case exhibited. (*b*) A case of rheumatoid arthritis with pigmentation of the skin and tremor.

Mr Scot Skirving showed a cystic hygroma of the neck.

Dr Edwin Bramwell gave a lantern demonstration, illustrating the posterior root localisation of the knee and Achilles-jerks. The patient had lost both Achilles-jerks and the left knee-jerk; the right knee-jerk was active, and both plantar reflexes were present. On the right side there was marked degeneration of the first sacral root, and slight degeneration of the fifth lumbar root. On the left side there was marked degeneration of the fourth and fifth lumbar roots, and slight degeneration of the first sacral and third lumbar roots. The conclusions derived from the case were that the afferent fibres for the Achilles-jerk enter the cord by the fifth lumbar root or first sacral root, or both; that the afferent fibres for the knee-jerk enter by the fourth lumbar and perhaps the third lumbar roots; and that the afferent fibres for the plantar reflex probably enter the cord by a root or roots below the first sacral.

Dr David Lawson communicated a paper on the Roentgen rays in the diagnosis of lung disease, the paper being illustrated by a lantern demonstration. He said that confirmatory evidence of skiagrams is not always obtained post-mortem. The use of the screen is preferable, for by it one can study the movements of organs of the chest wall, and further the appearances of the lung during respiration. The position of the clavicles and the defective movement of the diaphragm on the affected side were

referred to. Dark horizontal lines were to be seen in thickening of the pleura. When there is fluid in the pleural sac, the upper margin of the dull shadow gradually fades away; whereas in hydropneumothorax the upper limit of the dull shadow is sharp. Attention was next drawn to the varied conditions of the heart and great vessels, and of the mediastinal glands. Dr Lawson, in conclusion, described the appearances presented by tuberculous infiltration, fibroid phthisis (mottling; the light areas being due to emphysema), cavity formation (light area), pulmonary collapse (intensely dark shadow), emphysema and actinomycosis.

Dr James said that in the course of time the Roentgen rays would come to be of greater assistance in the diagnosis of lung disease. He thought that diminution of diaphragmatic movement on the affected side furnished no very definite information as to phthisis, as this diminution may be due to pleural adhesions. In his experience fibrosis of the lung gave a more diffuse shading than phthisis, in which one tends to find a mottled appearance.

Dr Gardiner inquired as to the value of Roentgen rays in the diagnosis of phthisis pulmonalis from other diseases of the lung.

Dr Lovell Gulland said that skiagraphy was of undoubted value in revealing impaired descent of the diaphragm, but he thought that in other respects it was doubtful whether from the Roentgen rays one could get information which could not be obtained by other methods. Skiagraphy should not be permitted to supersede the ordinary methods of examination.

Dr Allan Jamieson, Dr M'Allum, Dr Norman Walker and Dr Underhill also spoke, and Dr Lawson replied.

Dr Webster read a paper on "The Nauheim Bath and Resistance Exercises Treatment in some Heart Cases."

Dr Church, referring to some of the points in the paper, said that the baths could be taken at home with the same benefit as at Nauheim.

Dr Aitchison Robertson communicated a paper entitled "Sialagogues: their therapeutic employment." See page 36.

Dr Keppie Paterson, Dr Craig, Dr Webster and Dr Church spoke, and Dr Aitchison Robertson replied.

THE eleventh meeting of the session was held on the 17th June in the Royal Hospital for Sick Children.

Dr Melville Dunlop showed: (1) A case of achondroplasia—a girl aged 12 years, measuring 46 inches. (2) A case of Werlhof's purpura. Petechiæ were prominent features in the case. There had been recurrent epistaxis, and bleeding from the

gums, but no cardiac implication, joint swelling, or abnormality of the blood. (3) An infant after recovery from basic meningitis, caused by the diplococcus as described by Still. (4) For Dr Burn Murdoch, a case of multiple fractures in an infant suffering from rickets.

Mr Stiles showed: (1) Girl after excision of a tuberculous kidney. (2) Girl after transperitoneal excision of a large congenital hydronephrosis. (3) Cases of congenital dislocation of the hip (single and double), showing various stages in the treatment by Lorenz's method. (4) Case of penile hypospadias with persistently patent intra-abdominal part of urachus. (5) Case of cirsoid aneurism of the scalp after treatment. (6) Case showing method of treating wound after operation for radical cure of hernia in infants.

Dr John Thomson showed: (1) A case of late rickets in a child of eight years. The disease commenced with diarrhœa eighteen months ago, and the child now weighs 22 lbs. (2) A child of four years with head nodding and conjugate nystagmus.

Dr Charles Kennedy showed: (1) A case of sterno-clavicular dislocation in a child. (2) A case of depressed fracture of the left frontal bone occurring during delivery.

Dr Rainy exhibited: (1) A case of Erb's paralysis—following difficult labour—treated by the sinusoidal current in the bath. (2) Cases of infantile paralysis (cerebral and spinal).

Mr George Chiene showed: (1) Infant, aged 6½ months, on which sigmoidostomy was performed for imperforate anus. (2) Child, aged 1½ years, operated on for tuberculous testicle after the method described by Thorburn. (3) Boy after plastic operation for contracture of fingers and palm of hand following a burn. (4) Case of tuberculous disease of metacarpal bone treated by absolute rest.

Dr J. W. Simpson showed two cases of Mongolian idiocy.

The following card specimens were exhibited:—

Card Specimens:

By Mr STILES—

1. Tuberculous kidney.
2. Large congenital hydronephrosis.
3. Portions of long bones resected for tuberculous osteomyelitis (with skiagram by Dr Rainy).
4. Dissection of roof of fourth ventricle in a case of hydrocephalus following radical cure of spina bifida.

By Dr MELVILLE DUNLOP—

1. Knee joint from case of syphilitic arthritis (with skiagrams by Dr Rainy).

2. Liver from case of congenital obliteration of bile ducts.
3. Brain from case of simple basic meningitis showing cystic outgrowth from ventricle caused by pressure of ventricular fluid.

By Dr RAINY—

Various specimens of X-ray work.

By Mr GEO. CHIENE—

1. Tubercular testicle from case shown.
2. Gangrenous appendix from a case of general peritonitis.
3. Intestines from a case of general peritonitis following an injury to the abdomen.

By Dr JOHN THOMSON—

1. Specimen and photograph from case of congenital hypertrophy of pylorus which died without being operated on.
2. Specimen and photograph from case of sporadic cretinism.
3. Specimen and photograph from case of congenital laryngeal stridor.

By Dr STUART M'DONALD—

1. Specimens illustrating posterior basal meningitis.
2. Gangrene of lung following septic infarction.
3. Gangrene of lung following simple broncho-pneumonia.
4. Gangrene of lung following tubercular broncho-pneumonia.
5. Pericarditis in pyæmia.
6. Heart with patent ductus arteriosus.
7. Liver showing pyæmic deposits in a case of pylephlebitis.
8. Kidney showing hæmorrhagic infarction from thrombosis of the renal vein.
9. Kidneys and heart from a case of lymphatic leukæmia.
10. Tubercular peritonitis.
11. Cerebral hæmorrhage from injury during a normal parturition.
12. Embolism of the middle cerebral in a case of acute rheumatism.

Edinburgh Obstetrical Society

THE sixth ordinary meeting of this Society was held in Dowell's Rooms, 18 George Street, on the 27th May—Dr James Ritchie, F.R.C.S.E., President, in the chair.

Drs Munro Kerr, Lamond Lackie and Barbour Simpson exhibited interesting specimens.

Dr Angus MacDonald read a "Note of a Case of Fatal Tracheal Compression by an Enlarged Thyroid in a New-born Infant." The mother of the child was twenty-four years of age, and this was her third confinement. Labour had set in a month earlier than was anticipated, and the appearance of the child corresponded to the eighth month. The child had been born ten minutes before the arrival of Dr MacDonald, who found it in an advanced state of asphyxia, and with no sign of respiratory movement. As the result of vigorous efforts, chief of these being rhythmical traction on the tongue, respiration became to some degree at least established. On examination, an unusual thickening of the neck was found to be present, and this took the form of a distinct anterior swelling. The portion on either side of the middle line felt about the size of a marble, being firm in consistence, and occupying the seat of the thyroid gland. The condition was one of thyroid hypertrophy. An hour and a half after birth the breathing was still attended with great difficulty, the extraordinary muscles of respiration being brought into play, and the lower ribs retracted with each inspiration. About three hours afterwards Mr Stiles saw the child, and noted that the swelling varied greatly in size according to the degree of general congestion of the infant. A long mesial incision was made in the neck, and the isthmus and gland, being exposed, were seen to be enveloped in a perfect network of congested veins. During the tying of the isthmus, which was about the diameter of the adult little finger, the infant expired. This condition of congenital enlargement of the thyroid is a very rare one, and Dr MacDonald briefly indicated the cases of this affection which had been recorded by Drs Ballantyne, Sir J. Y. Simpson, A. R. Simpson, and Keiller. As the two previous children had both died, and the mother came under observation at the second month of this her third pregnancy, Dr MacDonald put her on potassium chlorate and iron, and kept up this treatment throughout her pregnancy. There was a degree of hydramnios present, but both parents were free from any thyroid enlargement. It was interesting to enquire, in view also of a case recorded by Professor A. R. Simpson where also potassium chlorate had been given, whether we had to deal merely with a

curious coincidence, or whether there was some real causal connection between the administration of the drug and the thyroid enlargement. Dr MacDonald referred to a similar connection observed by Dr Fothergill of Manchester.

The paper was discussed by Drs Berry Hart, Ballantyne and Nicholson.

Dr Munro Kerr read the Clinical History of a "Case of Chorionepithelioma (Deciduoma Malignum)." Mrs D., aged 23, a multipara, first came under observation on 17th May 1902, complaining of abdominal pain and uterine hæmorrhage. There was a history of miscarriage in the previous September. She had been curetted in March 1902, and the pain and discharge had continued since then. On admission to the hospital, she appeared to be very ill, extremely anæmic, pulse over 130, and temperature varying from 103-105° F. On 23rd May the uterus was cleared out, and several masses of what were considered placental tissue were removed. She remained fairly well during the subsequent month, but then the temperature began to rise in the evening. Septic infection being suspected, intrauterine douches were given with no effect. Dr Munro Kerr first saw the patient at the end of July, and recognised it to be one of deciduoma malignum. Under an anæsthetic the finger was introduced into the uterus, and a large rough mass towards the fundus uteri was detected. The bleeding was exceedingly profuse and was controlled with difficulty. The operation consisted in removing the uterus, the broad ligaments being ligatured. The patient was extremely collapsed, and died on the evening of the operation day. A post-mortem examination was refused, so it was impossible to say if metastases had occurred. A very vascular nodule was present in the vagina, and it may have been a secondary growth.

Dr John H. Teacher described the microscopical characters of the growth in this case, and illustrated it with lantern slides. He said that the tumour was in the form of a nodular mass occupying the fundus and posterior wall of the uterus. On section, most of the internal part of the tumour consisted of old blood-clot enclosing necrosed tumour tissue. The living tumour tissue formed the floor of this ulcer, and lay between the blood-clot and the uterine muscle. Microscopically it presented the typical structure of a chorionepithelioma, but it presented an unusual number of the cells, which are regarded as transition forms between the Langhan's layer of the chorionepithelioma and the syncytium. Superficially these presented a resemblance to decidual cells, but they had relatively far larger nuclei, and a different protoplasmic structure. The typical elements were: (1) Multinucleated masses of protoplasm of all shapes and sizes,

rounded, elongated bands and whorls. These masses were often vacuolated, the vacuoles containing blood or leucocytes. The nuclei varied greatly, many being small, homogeneous, and darkly stained; but all varieties were seen, up to forms which were very large and vesicular, with a well-marked intranuclear network and large nucleoli. Karyokinetic figures were not seen in the syncytia. (2) Individual cells of polyhedral shape, with a single nucleus and very clear, finely reticular protoplasm, arranged in groups usually enclosed by the masses of syncytium, as in the normal placenta. These cells varied much in size, generally, however, being much larger than the typical Langhan's layer or the uterine epithelial cell. Karyokinetic figures were numerous. (1) Cells with one, two, three or more nuclei, and with protoplasm presenting characters intermediate between the preceding types. The nuclei were generally of very large size, contrasting strongly with those of the unaltered Langhan's layer cells, and still more with the small nuclei of the maternal tissues. They were rich in chromatin, which formed a distinct network, and contained large nucleoli. All stages in the development of these from Langhan's layer cells were readily traceable. Individual cells had also one or more nuclei, and in general character appeared to be distinctly derivatives of the syncytium. The individual cells formed a large part of the cell masses, and specially were found where the tumour was infiltrating the maternal tissues. In the cell masses there was no connective tissue stroma, and no blood-vessels. The tumour cells infiltrated any maternal tissues with which they were in contact. They were also seen in the blood-vessels, either growing into their mouths and infiltrating their walls from within, or creeping in the wall under the endothelium. Evidence of destruction of the maternal tissues in the way of atrophying muscle cells and shreds of connective tissue amongst the tumour cells was very clear. In the connective tissue distinct evidences of inflammatory reaction were present. The tumour tissue was broken up by masses of extravasated blood, and where this had undergone clotting for some time the tumour cells showed evidence of degeneration amounting in the innermost parts to necrosis. These clots, and also the fluid blood in the maternal vessels, contained large numbers of polymorphonuclear leucocytes. The uterine mucous membrane showed marked inflammatory infiltration, but no change in the direction of decidua. The uterine glands were quite distinct and characteristic. The President, Drs Berry Hart, Haultain and Ballantyne took part in the discussion.

Dr Jessie MacGregor read a paper on "A Case of Cyst of the Labium Minus," which will appear in next month's Journal.

Glasgow Obstetrical and Gynæcological Society

THE eighth ordinary meeting was held on May 21—the President, Dr J. Nigel Stark, in the chair.

The following fresh specimens were shown :—

(1) By Dr Carstairs Douglas, a full term child which had lived one hour, and which showed cystic degeneration of both kidneys, double talipes varus, and a large oblong swelling in the hypogastrium in the position of the bladder, measuring 10 cm. by 5, and filled with a thick creamy fluid like slightly coagulated white of egg. To this structure were attached two tubes with a peritoneal fold, and at their extremities oval structures like ovaries (? undescended testicles). There was an imperforate penis and the scrotum was empty.

(2) By Dr A. Louise M'Ilroy for Dr J. K. Kelly, a large fibro-cystic myoma of the uterus. The patient was 47 and had had symptoms for 5 years (pain, pressure, menorrhagia). Palpation of the abdomen showed the presence of three projecting masses. The cervix was high and the sound entered only 1½ in. Dr Kelly removed by abdominal section a large cystic fibro-myoma which showed malignant degeneration in its upper part.

(3) Dr Munro Kerr showed : (*a*) a uterus removed by supra-vaginal amputation ; (*b*) a tube and ovary with great adhesions ; (*c*) a cyst removed from a woman 3½ months pregnant without disturbing gestation.

(4) Dr Stuart Nairne showed : (*a*) undeveloped tubes and ovaries removed for dysmenorrhœa ; (*b*) an extra-uterine gestation sac ; (*c*) ovaries and tubes showing peculiar colloid change ; (*d*) right appendages removed 8½ years subsequent to mammary cancer for suspected secondary malignant disease.

Dr Carstairs Douglas communicated a short note on Saul's method of distinguishing raw from sterilised milk and demonstrated the tests. It consisted in adding a little ortho-methyl-amido-phenyl sulphate and peroxide of hydrogen to the milk, when, if it were raw, a vivid pink-red colour at once developed, whereas boiled milk or milk heated to 75° C. or above it, remained unchanged. It had been suggested that the reaction was due to some oxidising ferment in the milk, and Dr Douglas said he thought this was quite possible as he found the reaction was given by saliva, pepsin and pancreatin.

Dr Stuart Nairne read a paper on menstrual epilepsy and showed a diagram for its study. He said he had been making observations on the relation of the menstrual period in women who were epileptics to the occurrence of the fits, and thought there was sufficient coincidence between the two to warrant the

conclusion that not unfrequently the menstrual onset acted as a provocative. It was sometimes difficult to exclude hysterical and fainting fits. He thought that in such cases a careful gnyæcological examination should be made and said he had found good follow dilatation of the cervix and the application of the actual cautery to the interior of the uterus.

The paper was discussed by Drs Adamson, Maclennan and Douglas, and the President, and Dr Nairne replied.

At the close of the meeting Dr Howard A. Kelly, of Baltimore, was re-elected Honorary President, and Dr Stark Ordinary President for another year.

ON June 17th, the Society was honoured by a visit from its Honorary President, Dr Howard A. Kelly, of Baltimore, and a large gathering of medical men in Glasgow and the West of Scotland assembled to greet him. The chair was occupied by Dr Nigel Stark, Ordinary President of the Society, who, after introducing Dr Kelly, asked him to occupy the chair and deliver his address. The subject chosen was "The History of Appendicitis in Great Britain," a point in which he had become much interested lately while preparing a book on the Vermiform Appendix. Dr Kelly said that various valuable contributions on the matter had been almost entirely overlooked, and that it was his desire to give due praise to those early clinical and pathological observers. The address will be published *in extenso* in this Journal, so that it is not necessary now to do more than give an outline of the address.

Dr Kelly said that perhaps the earliest clear contribution on appendicitis in this country was that of Parkinson in 1812. The next was one in the *Edinburgh Medical and Surgical Journal* of 1820; while Copeland in 1832, and Burn, of the Westminster Hospital, in 1837-38, added further to our knowledge. The latter used the term "typhlo-enteritis," while "peri-typhlitis" had been introduced in Germany ten years previously. In 1848 Hancock of London strongly recommended an incision before fluctuation could be made out and treated, and described a case. In 1850-51 Gay did a laparotomy (the first) for a strangulated bowel (internal hernia) due to incarceration under an adherent appendix, and reported the case, and in 1858 Howard of Montreal delivered the first clinical lecture on appendicitis in Canada. In 1866 Parker of New York, following up the work of Hancock, put the surgical treatment on a secure basis, and much better results were of course obtained when Lister had accomplished his great work.

Dr Kelly said he must not omit a word of praise for the gynæcologists who, if they did not work specially at the

appendix, yet greatly improved the technique of abdominal surgery; he desired, therefore, to mention the work of Clay, Spencer Wells and Lawson Tait. In conclusion, he said we all recognised the valuable work done in this field by a surgeon still with us, viz., Sir Frederick Treves.

At the conclusion of the address, Dr Stark moved that a very cordial vote of thanks should be given Dr Howard Kelly. This was seconded by Professor Murdoch Cameron, and most heartily accorded by the meeting.

ON Thursday, June 18, the Society held a joint-meeting with the Edinburgh Obstetrical Society, when the chair was occupied by Dr Nigel Stark. There was a large gathering of Fellows of both Societies, and Dr Howard Kelly inaugurated a discussion on Extirpation of the Uterus in various morbid pelvic conditions. He first of all uttered a protest against rash and indiscriminate removal of the adnexa, and said that his rule was in diseased states in women under forty, to remove first tubes, next uterus, and ovaries last of all. He then described certain modifications of the technique of hysterectomy which he had found useful, such as splitting the uterus vertically or the cervix transversely or freeing one side first and then rotating the uterus upwards and outwards, and attacking the other side from below up. A discussion followed in which the following gentlemen took part:—Drs Berry Hart, Murdoch Cameron, N. T. Brewis, J. K. Kelly, Haultain, R. C. Buist, Maylard, Kynoch, and Haig Ferguson. The President added a few words and Dr Howard Kelly replied. The two Societies dined together afterwards in the Windsor Hotel, among the guests being Dr James Finlayson (President of the Faculty of Physicians and Surgeons, Glasgow) and Professor M'Call Anderson (Dean of the Medical Faculty of Glasgow University).

Glasgow Southern Medical Society

THE seventeenth meeting of the Society was held on Thursday, May 21—the President, Dr MacGilvray, in the chair. Dr Andrew Wilson read a paper on the Treatment of Senile Cataract by Simple Extraction, in which he advocated this method in preference to the combined operation. The paper, which was illustrated by a demonstration of cases, appears on page 17. It was discussed by Drs Maitland Ramsay, Leslie Buchanan, and W. E. Thomson, and Dr Wilson replied.

THE eighteenth ordinary meeting was held on May 28—Dr Thos. Richmond, Vice-President, in the chair. The chief

business of the evening consisted of a beautiful lantern demonstration, by Dr John Anderson of the Victoria Infirmary, of the morbid anatomy of the pancreas in special relation to diabetes mellitus. Dr Anderson gave an excellent succinct resumé of the work done in this field so far, and was able to include in it a description of the pancreas in thirteen fatal cases of diabetes which he had personally examined. In two only could it be said that the gland was healthy. In all the others the islands of Langerhans were more or less affected. Dr Richmond, Mr Maylard and Dr Douglas spoke on the paper, and Dr Anderson replied.

Editorial Notes and News

Suicide in Syphilis.

SUICIDE in syphilis is doubtless extremely rare considering the frequency of the disease. That it is not altogether a negligible danger is shown by the fact that Professor Fournier has in his own practice met with no less than eighteen cases. In an article on this subject in *La Presse Médicale* (May 20, 1903), Professor Fournier divides these cases into four groups:—

1. Those where the suicide results from mental disease due to syphilis.

2. Those due to despair at the appearance of some syphilitic lesion, either serious in itself, or at any rate so regarded by the sufferer.

3. Cases which follow directly upon the diagnosis of the disease.

4. Those resulting from the social situation which the contraction of syphilis may bring about in relation to marriage.

A recognition of the possible danger of suicide should make the practitioner very careful as to how he announces to a patient that he has contracted syphilis. Not only should one avoid springing such a diagnosis too abruptly upon the sufferer, but one should be careful to add some words of encouragement as to the future. Professor Fournier even goes so far as to say that, however certain he was that a chancre was syphilitic, he would be extremely chary of expressing a definite opinion at the first consultation. He would much prefer to prepare the mind of his patient to recognise the possibility of infection, and would definitely express his opinion only at the second or even the third interview. Such precautions may be really necessary for only one case in a thousand, perhaps for one in ten thousand, yet for the sake of that one case they may well be adopted as the general rule.

Such is Professor Fournier's deliberately expressed opinion, but it would surely be very difficult to carry out such a rule in

practice. If a patient suffering from unmistakable symptoms of primary syphilis cannot obtain a definite opinion as to the nature of his disease from the doctor he consults, can he be blamed if he seeks advice elsewhere rather than wait the result of a deferred examination? And if it is hinted to him at the first consultation that his illness may turn out to be syphilis, will his mental state really be happier than if a positive diagnosis has been made, and he has been sent away, not only with instructions as to treatment, but also with encouragement as to the future, if he will persevere with a proper course of treatment? Professor Fournier's views are, however, of much interest. It remains for the practitioner to recognise a rare but real danger, and to consider how he may temper his announcement of the diagnosis of syphilis when it has to be made.

Blindness and the Acquisition of Sight in Adult Life.

CASES of blindness in which sight is acquired in adult life after an operation are not common in civilised countries. Dr Maitland Ramsay's paper (reprinted from the *Lancet* of May 16, 1903), detailing the histories of three such cases, is therefore of considerable interest. The most striking of these cases was a man of thirty years of age, blind from his birth, who resided a few miles from Glasgow, and who might never have sought relief from his affliction had he not been "discovered" by a medical student who recognised that his condition was curable, and induced him to undergo an operation.

For the first ten days after operation the patient appeared quite dazed, and could not realise that he was seeing. After he began to understand what seeing was, however, he seems to have made very rapid progress, and even the estimation of size and distance seems to have given him less trouble than has often been observed in similar cases.

The special interest of cases of this kind is that the acquisition of sight must in them follow substantially the same lines as in the case of the infant, but in the former observations and experiments which involve the co-operation of the subject can be made which cannot be made in the latter. The child has to find his own way out of the difficulties and confusions which result from misinterpreted visual sensations; while the adult, when in doubt, can ask the assistance of his seeing neighbours, and, moreover, can bring to bear his already developed tactile experience and his knowledge of the probabilities of the world about him. Dr Ramsay tells us that his patient, when asked to distinguish between a ball and a toy brick, looked at them attentively for a considerable time, his hands meanwhile moving nervously, as if he were trying to translate what he saw by com-

paring it with an imaginary tactile object, and then he described both correctly. Franz long ago made a similar observation. A cube and a sphere were placed before the patient, and he said he saw a square and a disc. The cube was replaced by a disc, and the patient said he saw two discs. To the same patient the human face seemed to be a plane. Dr Ramsay does not mention whether his patients had the same difficulties with perspective. There can be no doubt that to a child it is only by slow degrees that visible objects display their real form and locate themselves at their proper distances in space. What the child's real difficulties are, however, and how they are overcome, we can judge only by inference from our observations. It is much to be hoped that some day a surgeon who operates successfully upon an intelligent patient of this kind will give us as minute an account of the development of perception as has been done in the case of the child by such observers as Professor Preyer and Miss Shinn.

Golf.

THE annual match between the Physicians and Surgeons took place over Gullane Links on June 12th. The amount of new blood in the Surgeons' team had led to some apprehension that the Physicians would be hopelessly overwhelmed, but the result was one of the closest contest of recent years, the Surgeons winning by four holes and one match.

R. C. S.		R. C. P.	
R. H. Blaikie	0	F. W. N. Haultain	0
Argyll Robertson	0	G. M. Robertson	5
J. M. Cotterill	7	T. R. Ronaldson	0
J. A. H. Duncan	0	F. D. Boyd	0
A. M. M'Intosh	2	W. Fordyce	0
G. L. Chiene	4	C. J. Lewis	0
John Chiene	0	P. A. Young	4
D. Waterston	2	R. Thin	0
A. H. Sinclair	0	A. Ballantyne	1
C. H. Thatcher	2	J. MacPherson	0
R. Stirling	0	W. Elder	4
J. W. B. Hodsdon	0	Norman Walker	1
H. J. Stiles	4	G. L. Gulland	0
H. A. Thomson	2	R. C. MacLagan	0
J. B. Jamieson	3	D. Nöel Paton	0
T. Shennan	0	James Carmichael	0
Geo. MacKay	0	R. Lucas	3
J. B. Ronaldson	0	J. B. Buist	0
P. H. MacLaren	0	K. M. Downie	4
	26		22

Recent Literature

CRITICAL SUMMARIES AND ABSTRACTS

SURGERY

BIER'S TREATMENT OF DISEASE BY HYPERÆMIA

By E. SCOTT CARMICHAEL, M.B., F.R.C.S.Ed.,
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PROFESSOR BIER of Bonn (formerly of Greifswald) justifies his use of hyperæmia as a curative means by the following facts:—

1. Every organ during activity is in a hyperæmic condition.
2. All growth and recuperative power is more rapid and energetic when hyperæmia is present.
3. In all cases in which the body reacts to, and endeavours to remove, a local disease, a foreign body, or some form of poison, hyperæmia is the means used to bring about the result.

He has for eleven years treated various diseases by bringing about either an active hyperæmia, that is by increasing the rapidity and amount of the blood-stream flowing through the affected part, or by a passive hyperæmia brought on, by diminishing the rapidity of flow from, and engorging the vessels of, the affected part.

The most usual method for bringing about an active hyperæmia is by the application of hot air to the surface. He has proved by experiment that the hyperæmia caused thereby is not limited to the superficial tissues, but is present also in the deepest parts.

The apparatus used consists of a wooden box, covered with canvas soaked in an impermeable substance, the shape of which varies corresponding to the part for which it is used. A small chimney is led into one side of the apparatus, by means of which the hot air is conveyed to the interior, and an opening in the roof serves to cause sufficient draught to promote circulation of the air. A thermometer is placed in a small hole in the roof. The air is heated by placing a gas or spirit lamp under the lower end of the chimney.

The limb is placed in the box, and completely shut off from the outer air by fixing the felt, lining the opening into the box, to the limb.

When the temperature reaches 50° C. the part becomes moist, and from 60° to 70° C. there is profuse sweating, increasing up to 100° C. Sweating appears to diminish slightly towards the

highest temperature which the patient can bear, from 115° to 120° C. He applies it for about an hour a day in most cases, occasionally in obstinate effusions into joints applying it twice daily.

Passive hyperæmia of a limb is induced as formerly by means of a rubber bandage applied over a piece of lint, above the level of the diseased part. There should be absolutely no pain or discomfort felt during the treatment. The patient should be in a position to carry on his usual work with the bandage in position.

The limb, supposing the bandage to have been applied to the middle of the upper arm, becomes bluish red in colour, the back of the hand, fingers and region of the elbow becoming bright red. White millet-seed sized spots appear on the palms of the hands. After three hours œdema of the limb commences, but circulation through the limb is never seriously interfered with. The limb remains always at the same temperature as its fellow, a point of very great importance in estimating the degree of congestion, the warm congestion being that desired, as opposed to the cold congestion (*kalte Staung*) where the bandage is put on too firmly, and the limb becomes cooled down, as shown by measuring the skin temperature, and the feeling of cold experienced by the patient. The part swells very rapidly within a few minutes of the application of the bandage, in the latter condition.

In the most recent cases treated, Professor Bier no longer uses the continuous congestive method extending over a period of twelve to twenty-four hours, as he finds he gets as good results by applying the bandage for one hour a day.

It is applied so as to cause considerable swelling of the superficial veins, with a feeling of slight pricking towards the end of the hour. There should never be any discomfort or pain. As a rule, there is no marked œdema. It is not necessary to bandage the limb from the extremity upwards.

This method can be used in an out-patient department, and does not present any of the risks of the continuous treatment. The congesting bandage should always be applied at a different level on each occasion.

All the joints of the upper limb, including the shoulder, can be treated in this way, also those of the lower limb except the hip joint. It is better to apply the bandage at a distance from the affected joint: thus in the case of the wrist it is best applied round the upper arm.

The general effects of hyperæmia shown by clinical and experimental observation are:—

1. A power of soothing pain, which is its most remarkable

action, peculiar to both active and passive hyperæmia, and of great value in the treatment of chronic rheumatism and painful gonorrhœal joints.

2. A power of weakening or destroying the action of bacteria.
3. A power of promoting absorption.
4. A power of dissolving and softening clots and thickenings, so as to render them capable of absorption.
5. A power of increasing nutrition and promoting growth.

The following are the diseases in which Professor Bier applies the hyperæmic treatment:—

Tuberculous Disease of Joints.—Active hyperæmia in joint disease he has entirely given up, as he found that such treatment made the condition worse.

Passive hyperæmia he considers, after an experience of over ten years, is the best conservative method of treating joint affections; but in the hands of the inexperienced, bad and injurious effects are often the result. He himself in the earlier days of its application had many disappointing results.

The most frequent complications of the misapplied treatment were cold abscesses, the formation of which seems to have been hastened by passive congestion. Another complication is the formation of large masses of granulation tissue, especially in cases where ulcers and bruises were present, associated with which acute inflammatory conditions often arise, sometimes of an erysipelatous nature.

In cases of joint disease with sinuses and breaking down granulations, he advises passive congestion along with strict asepsis of the part and immobility of the joint. He has found from experience that he gets the best results in disease of the shoulder joint, or in disease of the testicle, where congestion is difficult to apply and therefore can only be used for a short time. The longer the treatment is applied, the more the œdema increased at the expense of the hyperæmia, often setting up a chronic œdema which was directly injurious.

Lately, therefore, he has gradually diminished the duration of the treatment at a sitting, until now he only applies it for one hour.

He lays down two very important rules for its application:—

1. The congestion should never cause pain, otherwise it is badly applied or the case is not suitable for treatment.
2. The temperature of the skin and limb should never be lowered beyond that of the sound one, and it is specially favourable if the skin temperature is somewhat raised.

Since paying attention to these two points, his results have

been more satisfactory, acute inflammations and cold abscess formation being much less frequent.

In the out-patient department of the hospital, the one hourly treatment is used as a routine practice, the patient remaining under the eye of the surgeon during the whole time.

He treats cold abscesses by incising them and emptying them, after three or four days applying congestive treatment. Where discharging sinuses are present, he treats them like those with unbroken skin. He does not limit movements during the treatment, so long as slight work does not cause pain to the patient.

Besides tuberculous joint affections, Prof. Bier has frequently applied the treatment in tuberculous disease of the testicle. If both are diseased, he lays a rubber tube, guarded with gauze, round the base of the scrotum, fixing the two ends of the tube together by means of forceps. If one is only diseased, he pushes the sound one upwards, applying the tubing to the scrotum below it. It is, however, difficult to get pure cases for such treatment, owing to the frequent involvement of the cord, and other parts, with the disease.

He also applies the treatment in tubercle of bone, tendon sheaths, and lupus.

Acute and Subacute Arthritis.—He has found the treatment of great value in gonorrhœal affections, especially when associated with great pain. In slight cases one to two hours, and in severe cases ten to twelve hours, is the duration of the congestion applied. Careful passive and even active movements of the joints are begun at once. In severe cases, he has always brought about the most excellent results, but the congesting bandage must be retained longer than in tuberculous cases. In one case recorded by him passive congestion was kept up for twenty-two hours daily.

Good results have also been obtained in acute rheumatic joints.

Erysipelas.—Apparently good results have been obtained in erysipelas of the face, by applying a bandage around the neck, so as to cause marked reddening and swelling of the skin of the face.

Chronic Ankylosis of Joints.—All forms of these, whether due to injury, rheumatism, or arthritis deformans, are much improved, especially by an active hyperæmia.

Relief of pain and increased mobility of the joint are nearly always brought about.

In these cases the technique recommended by Prof. Bier is as follows:—

1. Hot air daily for an hour; or
2. Suction apparatus once or twice daily, or

3. Passive congestion from eight to twenty-two hours daily.

In the intervals the limb should be raised and massaged in order to remove any œdema.

To promote Absorption.—Active hyperæmia is often a powerful means of absorption, and is useful in cases of œdema, for instance after fractures.

It has also been found of value in Elephantiasis.

He has treated a large number of cases of joint effusions with hot air. Serous or bloody effusions are often absorbed rapidly. It is not necessary to keep the joints at rest during the treatment, but they may be treated ambulant. Effusions of blood into the soft parts are also more rapidly absorbed under hot air.

Neuralgias and Pains.—The most powerful action of an active hyperæmia is that of soothing pain, and much relief has been given to cases of trigeminal neuralgia, applied to the surface of the skin through a funnel-shaped opening. Congestive treatment by means of a rubber bandage applied to the neck is also good in many of these cases, and in cases of headache.

In some cases of eczema, or discoloration of skin after injury, active hyperæmia promotes a rapid disappearance, also in cases of discoloration associated with varicose ulceration.

OBSTETRICS

PHYSIOLOGY AND PATHOLOGY OF PREGNANCY

By J. W. BALLANTYNE, M.D., F.R.C.P.Ed.,
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Menstrual Epochs in Pregnancy.—A steadily increasing number of articles dealing with the many problems of the physiology and pathology of pregnancy is to be chronicled in the current medical literature of the day. Guglielmo de Paoli (*Archivio di ostetricia e ginecologia*, x. p. 16, Jan. 1903), for instance, has made a clinical and experimental research upon the periodic menstrual crises of pregnancy, a subject which began to assume importance as soon as it was recognised that ovulation was not suspended during gestation. His observations were made upon thirty pregnant women and embraced the investigation of the state of the various bodily systems both in health and disease. He carried out his research with the special object of detecting the existence of differences between the phenomena in the periods in pregnancy which would have

been menstrual times if pregnancy had not supervened, and those in the intermenstrual periods. We may speak, then, of the menstrual crises of pregnancy and of the intermenstrual periods. It was found that the superficial and cutaneous reflexes, with the exception of the abdominal ones, were diminished in pregnancy; that the deep reflexes and the tendon reactions were exaggerated; that the pharyngeal and pupil reactions were weakened ; and that the sensibility to the faradic current was also diminished. All these changes were more marked at the times of the menstrual crises; and the author associates them with the modified functional activity of the cerebral cortex due to slowing of its circulation and with the hypertrophy and hyperplasia of the uterine nerves and ganglia. With regard to respiration, there was both diminished respiratory capacity and diminished pneumometric force in pregnancy, and this was more marked in the crises; the increased rate of respiration did not serve to counteract this tendency towards the less energetic performance of the respiratory function. Vascular tension increased steadily up to the end of the ninth month of gestation, but in the critical periods it diminished ; in the days that preceded labour it rapidly increased. There was a slight degree of gastro-intestinal atony during the crises, and some evidence that the glycogenic power of the liver was decreased. There was a diminished secretion of urine at these times and a fall in the amount of urea excreted. The body temperature was slightly raised during the crises, the cutaneous pigmentary changes became more marked, and in some cases transitory erythemata were noted. No alterations were observed in the number or strength of the fœtal heart beats. There was a greater tendency for uterine action to come on and for abortion or premature labour to occur at these critical times; and the various morbid phenomena of pregnancy, such as transitory mental disturbances, hysteria, albuminuria, eclampsia, varicosities, temporary œdemas, and the like, were more frequent and more pronounced. In women suffering from osteomalacia the pains in the bones and the diminution in urea-excretion were also more evident at the menstrual crises in gestation; and pregnant women with heart disease had then their troubles augmented. Evidently, therefore, a wise prophylaxis is indicated at these periods in pregnancy ; consequently the incidence of them ought to be calculated beforehand, so that precautions may be taken. The obstetrician ought, then, to keep in mind the menstrual days of pregnancy.

Pneumonia in Pregnancy.—Several questions still call for answers in connection with the occurrence of infectious processes in the mother and the transference of them to the fœtus.

Santi (*Bollettino della Società Toscana di Ostetricia e Ginecologia*, Ann. ii. No. 2, p. 36, Feb. 1903), for instance, reports three cases of maternal pneumonia in pregnancy, all of which ended in the premature emptying of the uterus. In all of them the diplococcus was found in the fœtal blood at the moment of birth, and in all there were lesions of the placenta affecting specially the syncytium. Further, the serum both of the maternal and the fœtal blood possessed an agglutinating action upon the diplococcus, and in all the three cases the agglutinating power of the fœtal serum was greater than that of the maternal. In this latter particular Santi's case was different from those reported by other observers. Apparently in this instance some of the agglutinin must have been formed in the fœtus itself as well as have been transmitted to it from the maternal organism. The question of the effect of the syncytium upon the agglutinin passing through it cannot therefore be regarded as cleared up by this observation. It is to be noted that it has been held by other bacteriologists that the agglutinating property is only transmitted to the fœtus when the power of the maternal serum is very high; this was not the case in Santi's observation.

Sextuplets.—A certain degree of doubt has always attached itself to the records of sextuplet births in the human subject; and as a matter of fact the medical man who reports the case has seldom been actually present at the confinement. In this respect the instance reported by Drs J. W. Kerr and Cookman (*Medical Press*, vol. lxxv. p. 537, May 27, 1903) does not differ from the usual rule. The mother, a woman of the Gold Coast, was found lying exhausted in a hut, and six fœtuses were found beside her. The infants were five boys and one girl; there were four placentas, of which one belonged to the girl, one to one of the five boys, and the other two to two boys each. It was said that labour had lasted only four hours, and that each placenta was born after the children to whom it belonged. This was the woman's fourth pregnancy; in her first she had given birth to quadruplets, and in her second and third ones to triplets in each instance. There had thus been the extraordinary obstetric output of sixteen children in four pregnancies. It may be added that all the six infants were dead before two days had elapsed. A photograph is given of the six fœtuses.

Ovular Theory of Puerperal Eclampsia.—Gaetano Politi (*Archivio di Ostetricia e Ginecologia*, x. p. 76, Feb. 1903) has carried out experiments upon the effect of extracts of the placenta of albuminuric and eclamptic women when injected

into rabbits. The extract from the placenta of a case of eclampsia produced a strong toxic action upon rabbits, killing them in a few minutes; the extract from a healthy placenta when introduced in the same way, viz., into a vein, had a slight toxic effect, causing inconspicuous renal and hepatic alterations within forty-eight hours. The extract from the placenta of an albuminuric woman, injected by the veins, showed a weakly toxic effect, but after forty-eight hours was found to have led to serious alterations in the kidneys and liver. Extracts obtained from placentas with old infarcts also exhibited a slight toxic effect upon rabbits, and serious alterations in the liver and kidney after forty-eight hours. In the placentas of eclamptic patients there was evidence of the presence of a special coagulating substance which was not obtained from the placentas of the simply albuminuric cases; and this toxic coagulating material was only found in infusions of the after-birth and not from the simple washing of it. Possibly this coagulating substance has a special effect in producing the eclamptic seizures, for in post-mortem examinations of women who have died from eclampsia numerous foci of coagulation have been found in the brain. Further, the fits have been found to occur more often during labour, possibly because the uterine contractions aspirate toxic coagulating materials from the placenta into the maternal organism. Politi, therefore, is of opinion that the primary cause of eclampsia is maternal auto-intoxication, but that the immediate cause of the eclamptic seizures is the placental change and the penetration into the maternal organism of toxic coagulating substances of placental origin.

Toxicity of the Sweat in Pregnancy.—Observations have been made by Noto (*Lucina sicula*, No. 3, 1903; abstract by E. de Arcangelis in *Arch. di ostet.*, x. p. 115, 1903) upon the toxicity of the perspiration in eight healthy pregnant women, in four suffering from simple albuminuria, and in two with eclampsia. He found that in normal pregnancy the toxicity of the sweat is slightly diminished; that it is increased in pathological pregnancies and reaches its maximum in eclampsia; and that in the puerperium the toxic quotient slowly falls to the normal level of the non-pregnant condition. It has to be borne in mind that the toxic quotient of the blood in pregnancy is increased in relation with the insufficient antitoxic function of the liver and kidneys. Noto thinks that the diminished toxicity of the sweat in normal pregnancy is due not to any diminution in the eliminating capacity of the skin, but to insufficient oxidation of albuminoids. A histological examination of the sudoriparous glands in normal pregnancies showed no altera-

tions, but in pathological gestations the epithelium exhibited cloudy swelling. Noto's practical conclusions are that hot baths (40 C.) may be given during pregnancy, are quite well borne by the mother, and have no ill effects upon the fœtus; and that in cases of renal insufficiency the hot bath has a therapeutic value of a marked kind, increasing the elimination from the skin of toxic substances both organic and microbic.

Ferments in the Liquor Amnii.—Josef Bondi (*Zentralblatt für Gynäkologie*, xxvii. p. 633, May 23, 1903) has made chemical observations upon the liquor amnii. He found that it contained ferments, and of these diastase and pepsin were regularly present. The serum of the blood of the adult contains these same ferments, while that of the new-born infant either does not contain them or only in traces, and therefore the conclusion is drawn that the probable source of the ferments of the liquor amnii is the blood serum of the maternal organism. The ferments of the amniotic fluid would appear to have no effect upon the maceration of dead fœtuses; autolytic processes would seem to play a part in producing the changes in the internal organs discovered in them.

Extra-uterine Pregnancy.—E. H. Grandin (*American Gynecology*, ii. p. 42, Jan. 1903) emphasises some facts regarding ectopic pregnancies which are in danger of being forgotten. It is well nigh the most malignant affection of the genital system to which women are subject. Its classic symptomatology leads almost inevitably to a correct diagnosis; but, and the "but" is significant, such symptomatology is the exception rather than the rule. The following are some of Grandin's axioms. Any woman, whether married or single, during her period of sexual activity may be subject to this malignant disease. Far more frequently than the reverse the classic symptoms are obscure or wanting. The man, therefore, who suspects every woman of having this condition is the one who is least likely to err in diagnosis. Hæmorrhage from the genitals of a woman who has subjected herself to the possibility of conception means that if she be pregnant it is not after the normal fashion. We should endeavour to forget the symptomatology of ectopic gestation copied from one text-book to another and reconstruct a symptomatology which eliminates amenorrhœa and enlargement of the uterus as symptoms, but which lays stress upon the fact that colicky pain ("green apple pain") is diagnostic of impending or actual rupture. Exploration through the posterior fornix of the vagina is the means above all others which will establish the diagnosis in doubtful

or obscure instances. Any woman who complains of deviation from her normal as regards menstruation, such as a few days more or a few days less than is her custom, may be carrying an ectopic gestation, even though amenorrhœa, hæmorrhage, uterine enlargement, and the passage of decidua may all be absent. Grandin illustrates these conclusions by eight instructive examples, in three of which diagnosis was made by posterior vaginal section.

PATHOLOGY

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ENDOTHELIOMATA

APART from the general question of the origin of malignant tumours, there is probably no branch of the subject which has excited so much interest in recent years as the group of neoplasms included in the term Endotheliomata. It is to be feared, however, that there is a tendency to include under it all sorts of tumours which cannot be positively identified as conforming to well recognised types. This is highly unsatisfactory, though hardly to be wondered at when one considers the aberrations from classical types which are so commonly met with in the examination of tumours and the convenience of an ill-defined term. Levings, in the April number of the *Clinical Review*, has recorded his personal experiences of the condition, and has collected the most recent opinions on the subject in a most useful article from which the following abstract has been mainly made. Much of the difficulty in understanding the endotheliomata arises from doubt as to the exact nature of the elements from which they take their origin. The earlier observers, Wagner, Schultz and others, considered them to be true cancers, but they are now generally considered to belong rather to the sarcomata. The question turns on the difference between endothelium and epithelium. From the time of His, all endothelium was till comparatively lately looked on as mesoblastic in origin; but the researches of Hertwig and others would seem to indicate that our term Endothelium requires revision, and that many so-called endothelial cells, *e.g.* those lining the pleural cavities, are really epithelial in origin, and that the use of the term Endothelium should be restricted to the lining cells of lymph and blood channels and capillaries. These are universally admitted to be mesoblastic in origin, and tumours arising therefrom should certainly be included in the connective tissue group. Fortunately there does not appear to be any

evidence from carefully recorded cases of primary endothelioma of the lung and pleura that the surface cells of the pleura (or alveoli) are at all concerned in the origin of the tumour. That these may be really epithelial cells then need not concern us. The second point of difficulty is the enormous variety in size and shape of the true endothelial cell. In its normal thin flattened shape as seen lining a blood-vessel it is readily recognised, but it is otherwise when it proliferates, assuming, as it does then, all sorts of shapes, spindle, cuboidal, cylindrical, etc. It is this character which causes the endothelioma to resemble so closely at one time the true sarcoma, at another the true cancer. There seems no doubt that endothelial cells have the power of forming distinct intercellular substance, and under certain circumstances, distinct connective tissue as seen in simple repair. The endotheliomata, according to Borst, may be divided into hæmangio-endotheliomata and lymphangio-endotheliomata, according to their origin from blood-vessels or lymphatics respectively. The first variety has the subdivisions of perithelioma, cylindroma, psammoma, cholesteatoma, etc. In studying the histology of the endotheliomata, one must admit even more than the usual aberrations from the common type. In the first place one recognises that the endothelial cells generally constitute but a small part of the tumour. In the common type one sees strands of endothelial cells forming a ramifying network in a dense fibrous tissue stroma. On section these strands may appear as solid columns of cells, or as spaces lined by one or more layers of cuboidal or irregularly-shaped cells. The spaces in some cases are widened into definite cysts. One may sometimes see that the row of cells next the wall of the space approximates in shape to ordinary lining endothelium; towards the middle of the column the cells are more irregular in shape and epithelioid-looking. Some of these tubular spaces lined by the cuboidal-looking cells may resemble ordinary gland tubules, but there is never any basement membrane, the cells lying directly as it were on the subjacent connective tissue. From the pressure of the cells on one another in the confined space they sometimes become spindle and irregularly shaped, and the appearance may be very like indeed what is seen in an alveolar sarcoma. The resemblance to true cancer is often strong, but the following points aid in their differentiation. If the periphery of the growth be carefully examined the epithelioid cells may be seen passing into the flat endothelial cells of the lymph vessels or spaces (Borst). Ribbert says that in endotheliomata the tendency is for the cells to occur in connective tissue spaces, which they fill in every direction, so that the

stroma forming the spaces and containing the vessels is surrounded in every direction by cells. Borst also holds that in endotheliomata there is more intimate connection between the fibrous stroma outside and the cells in the space than is seen in carcinoma, and that fine fibrillæ actually pass in from the edge of the space between the endothelial cells. No such appearance is seen in cancer, of course, and the collections of cells can be readily shaken from the spaces in pencilled specimens. For the same reason, in specimens fixed in spirit, one does not see the retraction of the cells from the walls of the spaces as one so commonly sees in cancer. Waldyer insists on the importance of remembering that in cancer one never sees blood-vessels next and among the cells, there being always some intervening stroma; in endotheliomata, on the other hand, this is not infrequently seen. Degenerative changes are extremely prone to occur in the endotheliomata, more particularly, perhaps, hyaline, mucoid, and myxomatous changes. One never, however, meets with the formation of true keratinoid material. The hyaline change may be seen in the stroma of the tumour; it is, however, more often seen in the walls of the blood-vessels. True myxomatous transformation of the stroma is common.

Probably the great majority of these endotheliomas arise from lymphatic spaces, but occasionally one does see tumours of this nature where the concentric arrangement of the endothelial cells round blood-vessels, often forming a definite sheath (perithelioma), is strongly suggestive of an origin from the vascular endothelium. It may be, however, that here also we are dealing with a tumour arising in the perivascular lymphatics. In the endothelioma occurring in the pia mater, it is often difficult to determine whether the endothelial cells are developing from the vessel endothelium or from the endothelial cells covering the trabeculæ.

Some of these pial tumours are associated with the formation of dense fibrous stroma, and according to the shape and arrangement of the cells some closely resemble fibro-sarcomas, some scirrhus cancers. There is a growing belief that many of the diffuse scirrhus growths of the stomach and intestine are really endothelial in origin, but it is extremely difficult to trace the development of these cases. In recent years a considerable number of primary endotheliomata of the pleura have been described. As has been mentioned already, most recent observers regard the superficial endothelium as taking no part in the actual tumour formation. Such tumours, however, are often associated with a true inflammatory condition in which the superficial endothelium no doubt plays a part. The new growth in these cases may be limited to the pleura, appearing as

flattened pad-like swellings or confluent nodules, but spread to the substance of the lung is not uncommon. Some of these tumours are associated with metastases in other organs. It is not unlikely that some of the tumours previously described as epitheliomas with typical "cell nests" were really endotheliomata. Microscopically in these cases the network arrangement of the strands of irregularly shaped epithelioid cells is usually very typical, and degenerations of the tumour are very common. Borst has described a papillary lymph-endothelioma in the subcutaneous tissues. At places the lymph spaces were quite filled up, but at other places were distinct cystic dilatations with papillary ingrowths from the wall. Similar tumours have been noted in the ovary by Marchand and Mueller.

In another group of the aberrant endotheliomata the stroma has an extremely complicated structure. This is most often met with in endotheliomata of the parotid and submaxillary glands. Hyaline, fatty, myxomatous, sarcomatous, and cartilaginous tissue may all be present, and it is probable that many of the so-called "mixed tumours" of the parotid and testicle are really of this nature. Borst describes both a transformation of the branching myxomatous cells into cartilage cells and a myxomatous degeneration of already formed cartilage cells. Endotheliomata may be met with in other glands. Ziegler has seen one in the mamma, and Levings himself has described another. Levings has also seen typical cases in the tonsil, sacrum and testicle.

It will be seen from the above that the sites of endotheliomata are practically universal. Their naked eye characters vary much. Thus they may be small or large; as dense as a fibroma, and as soft as a myxoma. They may be sharply circumscribed or widely infiltrating. They may show as a fungating mass, but as a rule they do not show the same tendency to ulceration and necrosis that is seen in sarcomas and cancers. Nor is it easy to make a definite statement as to their malignancy. As a rule, they may be compared with the more slowly growing sarcomas, and they do not generally affect the neighbouring lymphatic glands. They may be present for years, growing very slowly and suddenly begin to grow very rapidly. There is no doubt, however, that some endotheliomata are extremely malignant, not only affecting neighbouring glands, but showing early metastases in the internal organs, and causing rapid death. There can be little doubt from the large number of cases observed by Levings himself that the condition is much more common than is generally supposed, and doubtless more careful histological examination will show that many malignant tumours arise definitely from endothelium.

REPORT OF THE ROYAL COMMISSION ON PHYSICAL TRAINING (SCOTLAND) [1]

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THE Report of the Royal Commission on Physical Training has already been referred to in the May issue of the *Journal*, where a summary of the recommendations of the Commission will be found.

The *terms of reference* of the Commission were as follows:—To inquire into the opportunities for physical training now available in the State-aided schools and other educational institutions of Scotland, and to suggest means by which such training may be made to conduce to the welfare of the pupils; and, further, how such opportunities may be increased by continuation classes and otherwise, so as to develop, in their practical application to the requirements of life, the faculties of those who have left the day-schools, and thus to contribute toward the sources of national strength.

In carrying out their inquiry the Commission held twenty-eight sittings for the taking of evidence, and examined 127 witnesses. Among the medical men examined may be mentioned Sir Lauder Brunton; Drs William Bruce; Dukes, Rugby; Hay, Aberdeen; James Kerr, Medical Officer, London School Board; George Mackay, Edinburgh; Leslie Mackenzie; Milne Murray; Alan Tuke, Dunfermline; and Francis Warner.

The Health of School Children.—At an early period the Commission found it necessary to inaugurate a special inquiry into the state of the children in the State-aided schools and other educational institutions of Scotland. Witnesses examined upon this subject tendered opinions freely, but proved facts were few. Such evidence as could be obtained of the condition of school children referred almost entirely to English children. Scarcely any evidence was forthcoming as to the condition of the children in Scottish schools. As it was desirable to obtain the required information in as short a time as possible, it was determined to limit the inquiry to town children. Two towns in totally different parts of Scotland were selected for comparison, namely, Edinburgh and Aberdeen, and the examiners were instructed to discriminate between schools attended respectively by the poorer and by the better classes, and between urban and suburban schools.

[1] Vol. i. Report and Appendix. Vol. ii. Minutes of Evidence. Edinburgh: Oliver & Boyd, 1903.

In each of these towns an examination was made of one hundred girls and one hundred boys in each of three groups of school age, viz., equal numbers in each year between six and nine, nine and twelve, twelve and fifteen—which would afford ready percentages of each sex in each group, would bear prompt comparison with standard tables, and would extend over 1200 Scottish school children. The points which were considered most important in the statistics to be collected were height, weight, nutrition, mental condition, clothing, disease and deformity, along with such other data as could readily be gathered without unduly prolonging the task of the examiners.

The investigations were undertaken by Professor Matthew Hay, Aberdeen, and Dr Leslie Mackenzie, Edinburgh, and their reports bear intrinsic evidence of the care and exactness with which the work was done. The results of the investigation are of the greatest interest and importance both to the medical and to the teaching professions. It has for long been a reproach to Scotland that no accurate information was available as to the health and physique of the school population. Work of this kind has been done in nearly every civilized country, and statistical tables showing the average height and weight and other particulars have been published. It is therefore gratifying that so excellent a beginning should at last have been made in our own country. It is to be hoped that a recognition of the importance of the information now in our hands as to the children of Edinburgh and Aberdeen will lead to a more extended investigation of the children of the other large towns and of the country districts of Scotland.

The statements made as to the health of school children are decidedly disquieting. There is, we believe, a general impression that the school children of Edinburgh are, on the whole, a very healthy lot of youngsters, and we have known visitors from England to be much struck by the healthy look of the children as compared to those of such smoky towns as Manchester. Nevertheless we are told that in Edinburgh 19·17 per cent. of the children are in apparent poor health, and 29·83 per cent. are badly nourished. In this respect Edinburgh compares badly with Aberdeen, in which city the respective figures are ·5 per cent. and 9 per cent. The Edinburgh children are much below those of Aberdeen both in height and weight. While the Edinburgh *adult* man is 1½ ins. taller and 12½ lbs. heavier than the *adult* male Aberdonian, the average Edinburgh school child is 1·35 ins. shorter, and 4·97 lbs. lighter than the Aberdeen school child.

Edinburgh does not compare so badly with Aberdeen, if, instead of taking the percentage of *thin* children, we take the

percentage of *stouts*. Thus in Edinburgh, out of the total number examined, 22·67 per cent. are returned as *stout*, as compared with 21 per cent. in Aberdeen. Dr Mackenzie, in his report, tells us that a "deficiency of 'stouts' is a better index of health conditions in the school than the presence of 'thins,'" and so far as this goes there is very little difference between Edinburgh and Aberdeen, and what little there is tells in favour of Edinburgh.

The proportion of children 5 per cent. below the average and 5 per cent. above the average in weight differs very little in the two cities. The figures are as follows, for 600 children in each case:—

Aberdeen,	5 per cent.	above	the average . .	188
„	„ „	below	„ . .	216
Edinburgh,	„ „	above	„ . .	191
„	„ „	below	„ . .	237

As we have already said, the average in Edinburgh is decidedly below the average in Aberdeen.

As regards the existence of disease among the school children, no less than 70·5 *per cent.* are reported as suffering from disease in Edinburgh, against 45·7 *per cent.* in Aberdeen.

Selecting the principal groups of ailments from the reports, we find the following *percentages*:—

Percentage of Children affected with—	Edinburgh.	Aberdeen.
Skin affections	1·67	5·0
Diseased glands (mostly tubercular) .	18·5	2·0
Heart disease	4·33	1·0
Lung disease	3·0	1·8
Nose and throat disease . . .	52·54	30·0
Ear disease	39·33	9·0
Affections of eyes and eyelids . .	11·17	9·5
Bone and joint disease . . .	2·34	3·2
Deformities	1·67	3·5

Diseases of the nose and throat show the highest figures in the above table, but it must be remembered that all cases which seemed to deviate distinctly from the normal were counted, and many cases which scarcely required medical treatment have yet gone to swell the figures of "disease." Professor Hay says that one-fourth to one-fifth of the Aberdeen children suffering from enlarged tonsils or adenoids would probably have benefited by surgical treatment.

The Commissioners "remark with satisfaction that diseases of bones and joints were found in both cities in smaller numbers than might have been looked for." Against such satisfaction

must, we fear, be set the fact that active disease of bones or joints is scarcely compatible with attendance at school.

Unsuspected heart disease and phthisis evidently form a sensible danger among school children. The extraordinarily high percentage of diseases of the heart in Edinburgh calls for notice. As the Commissioners remark, if this percentage holds through all the Board Schools, there are 1300 cases of unrecognised heart disease of a dangerous nature in Edinburgh alone. Generalisations of this kind, however, are apt to be seriously misleading, and some comfort may be obtained from a study of Dr Mackenzie's summary of the twenty-four cases of heart disease observed. Of these it appears that no less than eleven occurred in one school, the average number of cases in each of the other three schools being therefore rather less than four. The explanation of this excessive number in a single school Dr Mackenzie seems to find in the physical exercises there in use, these being, he says, excessive, and such as would tend to overstrain of the heart. If now we set aside the number of cases in excess of the average of the other schools as being preventable under a more judicious system of exercises, the total number of cases of heart affection would be sixteen instead of twenty-four; and if the percentage so obtained held good throughout the schools, the total number of cases in Edinburgh would be about 860 instead of 1300. Some of the other cases observed could probably be cured, or at least prevented from becoming serious, by careful medical supervision.

The total number of cases of unrecognised phthisis in the schools must also be considerable. Dr Mackenzie states that they alone prove the need of systematic medical inspection, as he found children suffering from phthisis undergoing serious physical exercises even in the best of the Edinburgh schools which he examined. Evidently both unsuspected heart disease and phthisis form a sensible danger among school children both in Edinburgh and in Aberdeen.

The figures we have quoted as to the total percentage of disease in Edinburgh and Aberdeen, however we may attempt to mitigate them by reference to the trivial character of many of the affections noted, surely point to a very grave state of affairs. Even the slight cases of throat affection which have done so much to swell the figures are of importance as at least rendering the children vulnerable to various more serious disorders, and as "interfering in many ways with school, and ultimately with social, efficiency."

One other remark seems called for before leaving the Report on the Physical Condition of Scottish School Children. We are told that, "but for the large addition to the tabular matter

it would have enhanced the permanent value of the report if a summary of the information for each child were given. Such detailed information would have made it possible for subsequent investigators to work out from the facts fresh problems for themselves, or to compare at all points the facts elicited in this inquiry with those obtained in future inquiries of a similar kind." We think it is a real misfortune that this was not done. If the recommendations of the Commission are put into force, investigators of the physical condition of school children will multiply all over the country, and to them the detailed information which has *not* been printed would prove most useful. It is not without precedent that a Report of a Royal Commission should become a standard work of reference, and the present Commission has apparently had this possibility in mind, for the appendices include extracts from the final report of the Anthropometrical Committee of the British Association, 1875, from the works of Dr Francis Warner, and other tabular matter bearing on the physical condition of school children. Fuller tables relating to the Scottish children examined would have fallen into line with these, and would have enhanced greatly the future usefulness of the very valuable reports furnished by Professor Hay and Dr Mackenzie.

The Question of Degeneracy.—It is frequently asserted that the population of the large towns in Britain is undergoing rapid deterioration in physique, and this subject attracted a good deal of attention during the sittings of the Commission. Opinions *pro* and *con* were expressed by various witnesses as to various classes of people. But whether or not there exists a progressive deterioration of the slum population of Great Britain or of the inhabitants of its large towns as a whole, the Commission did not feel called on to determine. "It is enough that we find, by comparing the statistics of Aberdeen and Edinburgh, and quite as much by comparing those of the better with the poorer schools in Edinburgh itself, evidence that, whatever may be the case with the population as a whole, there exists in Scotland an undeniable degeneration of individuals of the classes where food and environment are defective, which calls for attention and amelioration in obvious ways, one of which is a well regulated system of physical training."

The Commission's Recommendations.—Seeing, then, that the health of so large a population of school children is in an unsatisfactory condition, the question which naturally arises is What can be done by means of physical training to remedy so deplorable a state of affairs? This at any rate is the question which presented itself to the Commission, and which seems to arise directly from the terms of reference. The Commission

has been blamed in some quarters for not entering into the whole subject of school hygiene. Such criticism, however, is scarcely fair, the subject of inquiry being distinctly physical training, the opportunities for it, and its value to the pupils. Besides which, the Commission did so far inquire into the subject of school hygiene as to become convinced that the physical degeneration noticeable among the pupils was due mainly to causes at work outside the school.

Among these causes one of the most serious was found to be lack of proper nourishment. This subject "demanded special notice, not only as regards the existing state of affairs, but still more in view of any increase of physical training throughout the State-aided schools which may commend itself." Obviously it is not possible for a child who is insufficiently nourished to profit as much as it should from either the mental or the physical instruction given to it, and to increase the amount of physical exercise taken by the child is to increase its need of nutriment. The Commission was much struck by the contrast presented by the children of independent but very poor parents in the Board Schools, and the children of parents who had altogether failed in their duty, as seen in the *Empress* Training Ship at Mossbank, and in similar institutions where sufficient feeding and physical training are given.

The recommendation of the Commission on this subject is as follows :—"It should be one of the duties of School Boards and School Managers generally to enquire into cases of apparently insufficient feeding ; that they should provide facilities for the provision of suitable food by voluntary agencies, without cost to public funds, and should co-operate with these agencies in the organisation of this work. Should this prove inadequate, we think that powers should be given to provide a meal, and to demand from the parents a payment to meet the cost price." This recommendation seems to be a good one, guarding as it does against the danger of impairing parental responsibility. But why should legislation not go a step further, and empower School Boards to provide meals at cost price to all children whose parents desired it. It should be possible to provide a simple and nutritious meal for at least as low a price as the parent would have to pay for it at home, especially when account is taken of the very high price paid for food by those who buy their groceries by the pennyworth. Such provision would be a great boon to many homes, where it may be difficult or impossible to prepare food in the morning or the middle of the day.

Medical Inspection.—The unsatisfactory condition of the school children, and the absence of available medical data, drew

the Commission's attention to a serious defect in our school organisation. "This consists in the absence of any general or adequate system of medical inspection. Such a system is urgently demanded mainly for remedial objects, but also in order to make available information of the highest value both for ascertaining the facts of national physique and the means that may be adopted for its improvement, or for retarding such degeneration as may be in progress." There is no doubt that in this respect Scotland is very much behind many other countries such as England, America, and Germany; but in this there is the compensating advantage that we should be able to take advantage of the experience of others. The Report before us does not enter into any discussion of the various means of medical inspection in vogue in different places, but the following suggestions are made:—"We suggest that the medical officers of burghs and counties should, where their services can be obtained, act as referees and consulting officers, to whom the School Boards within the area should be able to resort for advice in regard to special difficulties; and that where this is not the case, special officers should be appointed for the purpose. They should receive reports from local medical officers, and, if necessary, call the attention of the school authorities to any striking features in these reports. Their remuneration might take the form of a retaining fee proportionate to area and population, perhaps not exceeding £100 a year; and, in our opinion, it ought to be borne by Imperial funds.

"Next, it should be the duty of the district medical officers to visit and report upon all the schools in their district, being remunerated by a certain fee for each school proportioned to the number of scholars. They should certify as to the school being closed or re-opened on account of infectious illness; should decide on the questions that emerge in cases of infectious disease in particular children; should furnish the certificates required in the case of children withdrawn from school; and should prepare statistical reports upon the physical condition of the pupils of the schools. They should be in touch with the school authorities, although we think that a certain grant in aid of such remuneration should be paid out of the Parliamentary vote. They should also report on special points, as occasion may require, to the county medical officer.

A National System of Physical Training.—The Commission heard a great deal of evidence as to various systems of physical training now in use, such as the Swedish system, the German system, the Swiss system, Sandow's system, military drill, and some of the advantages and disadvantages of each of these are pointed out in the Report. The advantages of games, school

runs, applied gymnastics and swimming are recognised and emphasised. The recommendation of the Commission is that a special committee should be appointed, under the auspices of the Education Department, to prepare a model course containing exercises adapted to the requirements of the differently situated schools, and the different ages, sexes, and conditions of the health of the school children in Scotland.

There are many other points of interest to which we should like to refer, did space permit; but we fear we must be content with directing attention to Dr Milne Murray's evidence as to the physical training of girls, to the evidence of Dr Kerr, of the London School Board, of Dr Dukes of Rugby, and of the late Dr Almond of Loretto. A good index furnishes the means of reference to any special subject. The Report deserves careful study, and there can be no doubt that if its recommendations are intelligently carried out, we shall be a stage nearer the time when "over-pressure" will be a thing of the past, and every school child will leave school healthier and happier, as well as wiser, than when he entered.

New Books and New Editions

A System of Physiologic Therapeutics. A Practical Exposition of the Methods, other than Drug-giving, useful in the Prevention of Disease and in the Treatment of the Sick. Edited by SOLOMON SOLIS COHEN, A.M., M.D. Volume V. Prophylaxis—Personal Hygiene—Civic Hygiene—Care of the Sick. By JOSEPH M'FARLAND, M.D., Professor of Pathology, Medico-Chirurgical College, Philadelphia; HENRY LEFFMANN, M.D., Professor of Chemistry in the Women's Medical College, Philadelphia; ALBERT ABRAMS, A.M., M.D. (University of Heidelberg), formerly Professor of Pathology, Cooper Medical College, San Francisco; and W. WAYNE BABCOCK, M.D., Lecturer on Pathology and Bacteriology, Medico-Chirurgical College, Philadelphia. Pp. 539. London: Rebman, Limited. 1903. Price 12s. 6d. net.

THIS volume forms one of the most valuable and instructive portions of a system composed of many excellent treatises. The editor makes no apology for the inclusion of methods of prophylaxis in a system of therapeutics. He rightly insists that the two subjects are closely related, and that the care of the sick is a powerful factor in the prevention of the spread

of disease to the healthy. The preservation of health and the prevention of disease are considered under the three headings of Prophylaxis, of Civic Hygiene, and of Domestic, Personal and Sick-room Hygiene. The section on Prophylaxis is submitted under the divisions, the origin of disease, the diffusion of disease, the prevention of disease, and the prophylaxis of special infections. It occupies more than half the volume, and for it Drs M'Farland and Wayne Babcock are responsible. The origin of disease is regarded as due to intrinsic and extrinsic factors; the former group including considerations of age, sex, race, etc., while the latter group is classified into animate and inanimate causes and biologic poisons. Amongst the inanimate factors reference is made to heat and cold, atmospheric conditions, food poisoning, occupational influences and density of population. The animate factors comprise the animal and vegetable parasites and organisms. Under the term biologic poisons are included ptomaines, toxalbumins, toxins and venoms. The diffusion of disease is dealt with in the first instance as through the media of air, water, and soil, then by animals and food-stuffs, and next by social intercourse. Finally, the modes of parasitic invasion, the results therefrom, and the method of destruction and elimination of organisms are discussed. The prevention of disease opens with an account of immunity, is continued under disinfection, and ends with the prevention of the transmission of disease by animals. The prophylaxis of special infections deals with the different infectious diseases, and then refers in detail to alimentary, respiratory cutaneous, circulatory and venereal infections. Part II., written by Dr Leffmann, deals with Civic Hygiene under the headings, The City, Municipal Health Organisation, Food and Water Supplies, Disposal of Waste and of the Dead. Dr Abrams in Part III. describes Domestic and Personal Hygiene, Nursing and Care of the Sick-room. Such subjects as the construction of healthy dwellings, school hygiene, hygiene of travel and of the person come first, and then valuable reference is made to the hygiene of special periods of life and of special diatheses. The section closes with the regulation of the sick-room and care of the patient, and with hints on the nursing of special forms of illness.

The editor and the authors are to be congratulated on the issue of so complete an epitome of useful information on the very varied number of subjects included in the volume. The writing is clear and concise, and the text is well printed and illustrated. Necessarily in so comprehensive a book the space allowed to each item must be restricted, and in consequence brevity is sometimes granted too large an influence. For

instance, the subject of sexual hygiene hardly receives such full treatment as its importance warrants, and the chapter dealing with disposal of waste might well be enlarged. The prophylaxis of special infections is well done, and a valuable summary is given in tabular form. We notice that recognised bacilli of measles and whooping-cough are accepted, though this hardly accords with general opinion, and, in regard to the latter, different observers are quoted on pp. 240 and 274, leaving one in doubt as to the authority relied upon. Some excellent hints are given, to which the attention of architects in large towns should be directed, more especially as to the sanitary construction of byres and dairies and as to the need for the utilisation of the roofs of buildings as playgrounds and gardens. Of the apparatus described, the Forbes sterilizer for drinking water and the "Nevo" cooler for incoming air are specially deserving of attention, though the latter is unfortunately not likely to be in great demand in this country. On the subject of clothing some good advice is given, and any woman who has a partiality for a bad form of corset may change her views on learning that "splanchnoptosis" and numerous other ill-effects may result. The value of the volume as a whole would have been increased if literary references had been included, but its size would have likewise increased, and probably the decision against their inclusion was advisable in view of the extensive scope of the book.

The Etiology of Typhoid Fever and its Prevention. The Milroy Lectures, 1902. By W. H. CORFIELD, M.D. Oxon., F.R.C.P. Lond. Pp. xvi., 159. London: H. K. Lewis. 1902. Price 2s. 6d.

THESE lectures constitute a valuable contribution, not only to the prophylaxis of typhoid fever, but also to the study of preventive medicine in general.

Dr Corfield has had unusual opportunities of investigating both large and small outbreaks of typhoid fever, and of studying the various conditions under which the disease spreads. His views regarding the best means of preventing it, whether in the form of widespread epidemics, or of cases in households, deserve the careful attention of the medical officer of health and the general practitioner alike.

Dr Corfield discusses some of the ways in which the Eberth bacillus may gain an entrance into the human body, but recent investigations serve to show how imperfectly we really understand the precise modes of infection in typhoid fever. An

equally important matter, especially with regard to prophylaxis, is a more complete conception of what constitutes the state of natural resistance against infectious disease. During the recent epidemics of enteric fever among our soldiers at Bloemfontein and Ladysmith, only a relatively small proportion became infected, although it is probable that the infection was distributed over all. In many of the soldiers the conditions were unfavourable to the settlement of the bacilli. A "personal factor" was present which resisted their activity.

While this aspect of the question must be kept in view, still, in the present state of our knowledge, it is not likely to be productive of many practical results.

We therefore cordially welcome the republication of Dr Corfield's lectures, which form an admirable summary of recent investigations on the life history of the typhoid bacillus, and of the various ways in which it finds its way into the intestinal canal of man.

The conclusions to be drawn from the large amount of work already done in this direction are evident, and point to the absolute necessity for proper legislation in order to secure the protection of various articles of food from possible contamination with the bacillus.

Hygiene and Public Health. By LOUIS PARKES, M.D., D.P.H., and HENRY KENWOOD, M.B., D.P.H. (Lewis' Practical Series). Second edition. Crown 8vo, pp. xii. and 763. London: H. K. Lewis. 1902. Price 12s.

NEW works and new editions of works on Public Health are appearing almost daily. The subject is certainly one of great importance, yet it might have been thought that a plethora of such treatises already existed. That there is a demand, however, is shown by the fact that a second edition of Parkes' and Kenwood's manual has been called for within a year of its first isue. It would seem as if the reputation which "Parkes's Hygiene" enjoyed were to be still further enhanced by the association of Dr Kenwood in its production.

There are many treatises on hygiene, good, bad and indifferent, but this manual is one of the really good text-books, and well deserves the circulation which it has already attained. It contains a sufficiently full and trustworthy account of all that is important from a public health point of view, and has the immense merit of not being swelled out to a large volume by unnecessary padding. While all the subjects are well described, perhaps the chapters dealing with the contagia and communicable

diseases and with disinfection are the most valuable. The chapter on school hygiene might well be printed as a pamphlet, and circulated amongst our pedagogues. The authors believe that defective lighting in schoolrooms is one of the chief causes of myopia in children. The chief sanitary laws are summarised, and form the concluding chapter of this excellent volume.

Manual of Hygiene. By W. H. HAMER, M.A., M.D., D.P.H., F.R.C.P., etc. Pp. 579. London: J. & A. Churchill. 1902. Price 12s. net.

THIS is another treatise on Sanitary Science, in which the author has specially considered the requirements of those who wish to obtain a Diploma in Public Health. We have found it an excellent manual with no pretensions to originality, but giving a capital resumé of the science, as well as short accounts of some of the more important recent investigations. It is regrettable to find, however, that the author has included much that might be more properly found in an elementary book on physics: such, for example, as the physical properties of the atmosphere, weight of air, the action of a suction pump or of the syphon, the method of making a thermometer, etc. Surely such knowledge should have been, and really is, acquired by a student before he even begins his special studies.

The introductory chapter on the Rise and Progress of Preventive Medicine is interestingly written. Other chapters dealing with the Soil and its relation to disease; the relation of various diseases to milk, immunity, etc., are well written. Twenty-eight pages are devoted to Vaccination in relation to Smallpox, and seventy-five pages are given up to a summary of the chief Sanitary laws, while only ten pages are found sufficient to treat of Disinfection.

We congratulate Dr Hamer on having made an excellent compilation of our present knowledge as far as it relates to Sanitary Science, but we doubt whether the volume contains sufficient material to satisfy the requirements of the examiner in Public Health.

Public Health Laboratory Work. By HENRY R. KENWOOD, M.B., D.P.H., F.C.S. Part VII., dealing with Public Health Bacteriological Work, contributed by W. G. SAVAGE, M.D., B.Sc., D.P.H. Third edition. Crown octavo, pp. xvi. + 606, with illustrations. London: H. K. Lewis. 1903. Price 10s. 6d.

THE third edition of Dr Kenwood's "Public Health Laboratory Work" has been thoroughly revised and brought up to date. It deals with the analysis—such as is necessary for public health

purposes—of water, sewage, soil, air, food and disinfectants. The processes described and the method of description render the book very suitable as a guide to those engaged in a public health laboratory. Throughout the book valuable paragraphs are inserted dealing with the conclusions to be drawn from the results of analyses, and pointing out the limitations to which such conclusions are subject. A special section has been contributed by Dr Savage dealing with the bacteriological examination of water, air, soil and food, and with the recognition of the bacteria of those special diseases for which expert advice is most sought as a help in diagnosis. In an appendix to this section the preparation of media, various methods of staining and laboratory technique in general are briefly recounted. The book is convenient in size, well printed and provided with numerous illustrations. Here and there one notices misprints, such as lava for larva (plate ii.), nitrate for nitrite (p. 594), but theseare small points and do not seriously detract from the general excellence of the book, which may be recommended as a convenient text-book for candidates for the various D.P.H. examinations.

Colonial and Camp Sanitation. By GEORGE VIVIAN POORE, M.D. With 11 illustrations. London: Longmans, Green & Co. 1903.

THIS little work contains much practical information on Camp and House Sanitation, and should be of great use to those whose lot it is to live in remote places and colonies where the individual and not the public health authority, is responsible for sanitation. It is pleasantly written. The author has strong, but, we venture to think, just views as to the evil rôle played by flies in a standing camp, and condemns much that he has witnessed in the camp-scavenging of Salisbury Plain as not calculated to teach the soldier the right principles of dealing with organic refuse. From experience in South Africa this can be endorsed.

The account of the author's cottage—an experiment in sanitation—is especially interesting and valuable. The book should prove useful alike to the colonist and the proprietor interested in cottage sanitation.

Liverpool School of Tropical Medicine: Memoir IX. Report on Malaria at Ismailia and Suez by RONALD ROSS, F.R.C.S., D.P.H., F.R.S., C.B.; Sir Alfred Jones, Professor of Tropical Medicine at University College, Liverpool. Pp. 24. London: Longmans, Green & Co. (for the University Press of Liverpool). 1903. Price 1s.

THIS memoir—one of a series descriptive of the excellent work being done by the Liverpool School of Tropical Medicine—

consists of a report by Dr Ross of the measures recommended by him for the prevention of malaria at Ismailia and Suez. In response to the request of the Suez Canal Company, conveyed through their Chairman, Prince d'Arenberg, the Committee of the School granted the services of Dr Ross for the investigation of malaria in these places. Dr Ross was accompanied by Sir William Macgregor, Governor of Lagos, whose experience of the preventive methods found most effectual in his own district enhances the value of his endorsation of the advice given by Dr Ross. At Ismailia the types of malaria commonly met with are the benign tertian and the æstivo-autumnal, but severe cases are rare. The chief seasonal incidence of the disease is in autumn. The presence of anopheles had been demonstrated by the local doctors, Messrs Dampeirou and Pressat, and the breeding-places of these mosquitoes had been found to be in isolated pools which owed their origin to the high level of the subsoil water. The water supply of the town, on the other hand, was found to be in general free of larvæ. In these circumstances Dr Ross advised the extirpation of mosquitoes, and suggested the employment of a staff of men: (1) to clear from weeds, drain, or fill up marshy pools; (2) to treat with oil such pools as could not be at once dealt with as above; (3) to add petroleum each week to all drainage cisterns and cesspools. Further, in addition to the use of quinine and to the education of the people in the means of warding off malaria, it was urged as a general measure of prophylaxis, not specially directed against malaria, that the domestic water supply should be filtered.

At Suez malaria was found to be mainly confined to the neighbourhood of the waterworks, and its source was indicated in adjoining marshy pools in which anopheles larvæ were numerous. Measures similar to those detailed above were recommended for dealing with these pools.

Disinfectants and Antiseptics: How to Use Them. By EDWARD T. WILSON, M.B. Oxon. A card, pp. 4. Fortieth thousand. London: H. K. Lewis. Price 1s. per dozen.

THIS is a useful *vade mecum* for sanitary officers and others. The card is packed with useful information. One slight criticism may be made. Fresh air and sunlight are rightly described as "the best and cheapest" disinfectant, but to say they are "to be got by open windows or (*sic*) a fire" is not explicit.

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THE SCOTTISH
MEDICAL AND SURGICAL
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THE SCOTTISH MEDICAL CORPORATIONS AND THE PUBLIC WEAL: HOW THEY MIGHT DEVELOP A HEALTH-CONSCIENCE[1]

By T. S. CLOUSTON, M.D.,
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Work of the Corporation in the Past.

THE three Scottish Medical Corporations—the Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, and the Faculty of Physicians and Surgeons of Glasgow—have each, by charter and by Acts of Parliament, acquired certain important privileges, and have many duties to the profession of medicine and to the public. The power granted to the Corporations related to the health of the people and the welfare of the State. "*Vita et Sanitas*" was their motto. They bound into corporate strength the units of the profession of medicine; they "elevated its character and its dignity," and they encouraged and advantaged medical science and learning. They originated and have continued to support the chief of the great schools of medicine of Scotland. Most of the leaders of surgery and medicine in Scotland in the past have belonged to those bodies,—all this tending strongly towards the public good. A glance at their history shows that their conceptions of duty have widened as time went on. They have, in fact, undergone a process of development and evolution. At the present time they are well organised, energetic bodies, full of zeal for the advancement of the profession of medicine. They show no signs of senility. They have, on the whole, taken a wide view of their responsibilities, and have

[1] Read before the Medico-Chirurgical Society of Edinburgh.

not written "finality" on their aims. No one can read their charters and try to get at their spirit without seeing that they admit of a wider and more beneficial construction than appears at first sight, and this larger outlook has generally been taken. No doubt in hundreds of years of existence there have been movements that seemed narrow and selfish, but these were short-lived.

Work of the Future.

The proposition I am to advance to-night is that now, at the beginning of the twentieth century, medicine and surgery and the sciences on which they are founded have made such advances, and have thereby acquired such capacities of ameliorating the lives and improving the health of men and women, that there is room for a forward movement on the part of these Corporations for the public weal. New conditions affecting the physical and mental welfare of men for good and evil have arisen. New means of spreading health-knowledge are in existence. New methods of influencing the masses of the population for good in regard to their food and drink: their modes of life and environment are at the disposal of those who have the knowledge and authority to use them. The general press has become a power that reaches almost every one, but it is little used by medicine. The democratic idea that every citizen is entitled to the benefit of everything that will add to human health and happiness is growing fast. The public ignorance as to health and welfare conditions is great, but the craving to know them is widespread and pathetic. A professional authority to which appeal can be made is longed for. The conviction of health sin is general, and the prospects of conversion to a new healthy life are promising. Health and sanitation Acts by the Legislature, medical officers of health, sanitary inspectors, notification of infectious diseases, inspection of workshops, health lectures, health congresses, innumerable and energetic efforts by medical societies and by medical and lay preachers of physical righteousness have all, in addition to prolonging life and diminishing death, done incalculable service by rousing in the public mind the vague beginnings of a tremendously important mental process of a dissipation of the former fatalistic assumption that disease and

deformity, weakness and unfitness are inevitable things, which God and the devil had arranged between them for the chastening of mankind and the punishment of their sins. Not only so, but there is visibly arising among the more intellectual of our people the beginnings of a new development of the moral sense, a feeling of personal responsibility for the existence of disease. In fact, there is arising an influence which may do as much for the physical and mental conditions of men as morals and religion have done for their conduct. A health-conscience is being slowly created. Many people are keenly dissatisfied with the present health and welfare of the body politic, and self-reproachful about evils which they think should not exist, and which they individually should help to put an end to. Some of them go even further, and have in their minds the beginnings of a health ideal, a conception of communities of men and women, strong, handsome, fruitful, long-lived, intelligent, self-controlled, and free from disease. Such ideals are very stimulating to efforts for their attainment, and should by all means be encouraged. Things only get done when a sense of duty comes in and ideals are formed, and in this direction corporations could work effectually.

A Health Apostolate.

No body of men knows or can know so well as the medical profession the state of the public mind in regard to health questions, or the extraordinary difficulties which must be encountered in dissipating the profound ignorance which on this matter besets it. We all feel that in this we should educate our masters, the public, in all that relates to its physical and mental condition. Most of us try to do so individually, but to leaven the mass of mankind with health knowledge will need more than sporadic individual effort.

As a profession, we have not as yet taken the position to which our knowledge of physiological laws and our sanitary and medical experience entitle us. The public at present does not use us and our knowledge as it might for its own benefit. The Legislature notoriously distrusts us, and does not call us in as it might do to its aid in framing its Acts which affect the health and welfare of the people. Few large

conceptions of the value of modern physiological sanitary and medical knowledge to the State have been expressed by our parliamentarians and statesmen since Disraeli's famous *sanitas sanitatum* epigram. What do we hear of the physiology and psychology of brain development in the course of the torrents of discussion on education? We are by many influential laymen suspected of being professionally selfish, faddy, and incapable of taking large views that could be both practical and helpful to the statesman. As a matter of fact, it is doubtful if the professional ideal of the doctor is quite as altruistic and unselfish as that of the priest. In reading lately the journal of John Wesley, one could not but be struck with the fact that no man of our profession had ever been inspired with the physiological ideal of elevating and perfecting human life as he was with his spiritual ideal. None of us have gone to the people and devoted our lives to save them from disease, degeneracy and death, as he did to save them from hell fire. And yet there are possibilities for a medical apostle of health as fruitful for human good in the long-run, looking to the future of our race, as were Wesley's labours of fifty years, his 300,000 miles of travel and his 200,000 sermons and addresses. He was a great organiser, and founded a Church to carry on and spread his work. We sadly need an organisation for our propaganda, and some authoritative body with a continuous life to attend to the soundness of our people in body and mind.

Of course it will be at once objected that our doctrines are not yet always indisputable, that the laws of life are far from being yet fully elucidated, that our facts are yet too few to found universal health precepts on, that we might lead the people astray by premature generalisings, and that notoriously "doctors differ." Our answer is that we have definite knowledge enough even now to do enormous good to men's health, and that the public welfare would benefit greatly by the application of that knowledge.

Foods and Diets.

Take, for example, the food question of our people—that primary of all physiological needs. Can anyone say that the large and accurate chemical and physiological facts we possess

about foods are generally known or utilised for the benefit of our people? Food—its constitution, its selection, cost, cooking and use—concerns the health, mental and bodily, of every man, woman and child; and knowledge about it is especially related to the health, comfort, and social well-being of our wage-earners. The writing of this paper was partly suggested to me by the recent investigation on "A Study of the Diet of the Labouring Classes in Edinburgh," by Drs Noël Paton, Crauford Dunlop, and E. M. Inglis, published last year. The scientific work of this paper having been carried on in the laboratory of the Royal College of Physicians, gave it a special interest to its Fellows and those of the College of Surgeons. It embodied most laborious and careful observations, it received help from the Town Council of Edinburgh, it was intensely practical, and its facts and conclusions would, if digested and practised, have been of great benefit to every wage-earner in Scotland. Life and health to many of them might depend on their knowledge of that paper. What systematic means were taken to spread its most important facts and conclusions in an effective way among the people it concerned? None whatever, except that part of it was published in the local newspapers. Every working-man in Scotland might have got a copy for a half-penny. Can anyone say that in this instance, which I take almost at random, there is not room for an organised diffusion of such important health knowledge by our Corporations? Our physiological, medical, sanitary and dietetic knowledge of the most pressingly practical value is buried in our medical journals and books, and never reaches or benefits the people who need it and who often would be most willing to receive it. It is as if practical morals and religion were to be hidden in ethical and theological tomes, while vice and irreligion were rampant among mankind.

Educate the Educator.

Then look for a moment at the insignificant place physiology and medicine hold in education. A Scotch professor of education in a recent address to teachers told them that educators were commonly ignorant of the very first principles of the physiology of the developing brain, and he was not contradicted. My experience entirely confirms that of Pro-

fessor Edgar, and that this is not the fault of the teachers. No one has taught them this knowledge or impressed them with the idea that it ought to be an essential part of their armamentarium. If a human brain has to be "educated" between the ages of five and twenty-five, surely the educator should know something of it and its development between those ages. It is only quite recently that it ever seemed to occur to our legislators and great School Boards that medicine and physiology could help them to understand the relationship between the developing brain of a man and his mental and moral character—the most subtle and for humanity one of the most important things in Nature. Has medicine no responsibility for the ignorance and neglect on this matter? It seems a clear duty to assert its place for the benefit of future generations of mankind. If there is one period of life, and if there is any process affecting mankind in which medical and physiological experience come in, they are the developmental and educational period and the educational process. People talk with horror of a Godless education; they seem to have no sort of fear of an unhygienic education. To read most educational works, the mind is everything; the brain, through which alone the mind can act, is seldom mentioned.

Philosophy, religion, morals, mind, everything seems to come into education except physiological law and fact. The recent Scottish Royal Commission on physical training, admirable in its aims, and its appointment a sign of better things, came nearest the medical idea of approaching the subject; but its basal idea was not quite the scientific one, and instead of one medical man among nine members, half the Commission might well have consisted of physiologists, sanitarians and medical men. By far the most important parts of the report were, not the opinions expressed by the educationalists and others, but the developmental and medical facts brought out in important original investigations by Drs. Warner, Leslie Mackenzie, and Hay. The members of the Commission as a whole seemed not to grasp the philosophical conception of the unity of the human organism and the essential connection between body, mind and brain. I believe a similar German Commission would have been differently constituted and would have taken a larger view of its functions.

It seems as if it would take a century to eradicate the idea from this country that science is necessarily "unpractical," and that the "business man" and he only can be trusted to investigate and report on any subject whatever that concerns the people or the State.

The mind of the country is now wakening up to the idea that there is a process of degeneracy going on in our town populations. But there has been no really large and scientific treatment of this momentous subject, either to investigate the facts, or to inquire into the essential difference between urban and rural life and their physiological effect on mankind. Scientific men can alone do so, but at present it and we drift along in ignorance, with spasms of panic when such facts as that only one Manchester recruit out of five can be made to handle a rifle come out in a casual way.

There are many other matters of primary importance to the life and health of our people in regard to which they urgently need knowledge and a sense of duty. The great housing problem, the nurture of children problem, the heredity problem, the marriage of the weak and tainted problem, the alcohol problem, the mental disease and degeneracy problem, are some of those. Looking at the last —the mental problem—"lunacy" is looked at far too much *per se* and without reference to its true and large physiological and psychological meaning, and to its relationship to hereditary weakness and to environment, to other forms of disease, to other degeneracies and brain "reversions." The public have first to be untaught much about mental disease as well as to receive healthful practical knowledge. Superstitions and prejudices about that and other health subjects die hard.

Even when large and admirable ideas and schemes relating to health and human conditions are started, they are apt to lack scientific guidance. Witness the Garden City Association with its committee of sixty-eight members; only two of them are members of the medical profession, and its council of nineteen with not a doctor among them. Why, the very idea of such a city originated with Sir Benjamin Ward Richardson in his "Hygeia, or a Model City of Health." If St Margaret's Hope is to become such a model city as the Garden City Association urges, and as we all fervently hope, this can only

be done through the application of our sanitary and scientific knowledge, and by our active and practical help.

A Health-Conscience.

I have purposely omitted to refer to the existing agencies and efforts for improving and maintaining the public health which have done such wonders, but rather have endeavoured to point out some of the unoccupied fields. The labours of the older sanitarians, the Public Health Acts, and the magnificent work of our medical officers of health, we all know to be the very sheet-anchors of nearly all the improvements that have taken place of late years. My only regret is that these Acts are not wider in their scope. The medical officers of health in very many cases take a larger view of their duties than those prescribed by statute, and their annual reports are as yet the best Bibles of health we possess. Any means by which the most urgent and impressive of these facts and teachings could be brought into effective contact with every mind in every county of Scotland would in time do incalculable good, and this I believe our Corporations could effect. I should like to see every medical officer of health a Fellow or a Member of our medical Corporations for the mutual benefit and assistance of both.

If it is granted—and it cannot well be denied—that there are many unoccupied health fields, that the public weal urgently demands further efforts to improve the health and the organic welfare of the people, and that the recent advances in science and medicine enable such efforts to be successfully made, then the question arises, On whom does this duty chiefly fall? We are a small and compact country in Scotland, we are as advanced in regard to medical sciences as any other country, we are supposed to have average efficiency in administration, and we have three great medical bodies with prestige and organisation, whose charters permit of their undertaking such work, if they do not, when interpreted in a large sense, directly point to it in the public health interests. Our people are, on the whole, well-educated and receptive, as well as being alive to their own interests. Our newspaper press is public-spirited and, when politics do not intervene, open to all who can interest and instruct their readers. We have scattered through the country

thousands of medical men increasingly well-instructed, many of them being zealous and not too busy. We have in our Corporations an increasing number of young Fellows and Members, with all kinds of scientific knowledge at command, eager for research and for work of every sort.

It seems to me, therefore, that we have ready to our hands the means, first, of setting up a health authority which would command respect and confidence ; and secondly, of instituting a health propaganda to educate, to persuade, and to form a "health-conscience" among our people, the new health organisation neither superseding nor interfering with any existing effort or work. On the contrary, it would stimulate and back up every such means of improving the physical and mental condition of our people. Such work should be entirely altruistic, scientific, and free from what might be called professional selfishness. No "professional interests" of any kind whatever should come into this work. Religion, morals, politics, and free education have all been pressed on every individual of our people, systematically and by many organised or legal authorities. Science alone has not taken its place as an all-pervading factor in the making of the modern man and of modern society, and of all branches of science those relating to man's life and health should surely come first for the mass of a people. They concern him immediately from the cradle to the grave. The attempt to take up this work would, I believe, do our Corporations and profession an enormous amount of good. It would give us a higher sense of public responsibility to our fellow-citizens, and a higher and more altruistic ideal of our duty. It would teach us to take larger views of disease, for we would more habitually think of its prevention and its predisposing rather than its exciting causes. It would give a special opportunity for the exercise of the talent of popular exposition of health subjects by pen and voice which some men specially possess. It cannot do any individual or any corporate body any harm to have "a mission" for race improvement and race health. We have hitherto had too little of this feeling among us, our individual patients being too exclusively considered, the community too little thought of. To our country brethren it should give more of a feeling of professional solidarity and less of individual

isolation. This in every way would do them good. They would thus be in frequent communication with our corporations, and we would learn much from them. The public would gradually come to look on every doctor as being a public benefactor and an essential element of a well-organised society. The healthier a community became the more the doctor would be called on to avert the curse of disease.

As to the means by which a health propaganda might reach the masses of our population, they would have to be exceedingly varied. It goes without saying that to do much good and to establish the "Health-Conscience," which should be the ultimate goal of our labours, continuous iteration of the commonest health axioms would be required. The repetitive principle of the weekly service and sermon of the church would have to be adopted. The parent, the teacher, the clergyman, the public man, the politician, and the newspaper editor would first have to be interested and instructed, and then enlisted in our cause. The press must, I am convinced, be our chief pulpit. Its use for this particular service of humanity has been most unaccountably neglected. All men do not now go to church, but every man reads the newspaper. The medical press, the medical societies, the original investigators, the reports of the medical officers of health, the medical books, the university lecture-rooms would supply the pabulum. This would require continuous, judicious and laborious assortment and condensation. Why should the tract almost always be a religious tract, or the leaflet commonly a political instrument? I see that for a political propaganda in one city 300,000 "leaflets" are to be circulated. A suitable literature for systematic teaching would soon come into being if it were demanded and in constant use. Health primers could be easily and cheaply got up for the use of old and young. The country doctor, well educated as we now turn him out, would be a living voice for health, and would direct and use all these agencies as the clergyman uses his Bible, Prayer Book and sermon, and as the schoolmaster uses his school books. He would also organise health workers, as the clergyman and the philanthropist do, in every parish. My contention is that our Corporations could effectually assist and stimulate him in his work.

Let us imagine a community with a health conscience, a health ideal, and sufficient health knowledge. Pregnancy and parturition would become safer and be bereft of many of their gloomy forebodings. Lactation, child-feeding and nurture would be based on scientific knowledge, new milk and pure milk only would be given to children, the mortality among children under five would fall 50 per cent. in our cities, the meaning and the use of play would be understood. Child sleep and clothing would follow Nature's law, the mental and bodily development of the child would be closely studied, and the risks and danger signals understood. Simple but accurate observations of child growth and progress would be taken. The doctor would be called in for advice as to defects and arrestments of development at early periods. The effects of good air and bad air breathed by children would be appreciated. Stock would be taken of every child by the doctor and the parent before the technical process of school education began. The teacher would have far more physiological knowledge of the human brain and human body that he has now. The distinctions between physiological and moral sins would be made at home and at school. All schools and each scholar would be under medical inspection. The brain as the organ of mind, and the body as the organ of the brain, would during the developmental process be treated on sound physiological and psychological principles. School games, drill, and exercises would be systematised. Education would have a far fuller and more rational significance to the parent and teacher. The real meaning and the risks of puberty and adolescence would be far better understood. The sex question would be looked at more rationally. The choice of occupations and residences would be considered from the health side, and the idea of organic fitness introduced. Moral and religious training would go hand in hand with health training, and would be considered a part of it. Ideas of right and wrong would be made to apply to the body as well as the mind. To break nature's laws as they affect any human being would be regarded as sin, and be followed by contrition and amendment. A health conscience would be established as an integral part of every man and woman's nature. Adverse heredity would be recognised and counteracted in every possible way. The all-

important marriage question would have some science and reason as well as emotion come into it. The tremendous responsibilities of maternity and paternity would be better realised. Deliberately to choose to live in a crowded or unhealthy neighbourhood would be regarded as suicide is now. To use alcohol in excess, to indulge in sexual vice would be equivalent to losing self-respect and manliness. Health would be idealised and longed for as beauty is in women. It would be taken for granted that all ordinary diseases may be prevented, and that their existence is scandalous. To neglect any measures for the improvement of human health would in any government be regarded as *ipso facto* a reason for its instant dismissal. A sense of organic well-being, the most certain of all proofs of health, would be aimed at for individuals and for society. The meaning and the proper treatment of old age would be understood. Disease and death would be more painless than they commonly are. Life would be far more efficient than it is now. The irritability and pessimism of men and women would lessen. Men, and especially women, would get far more out of life than most of them do at present. The efficiency of the worker would be greatly increased. The money value of a man would go up greatly through the improvement of his size and strength and nervous energy.

Suggestions for Action.

No doubt the criticism of such propositions as I have made will commonly be, We agree that all this is most desirable in theory, but how is it to take practical effect and become a working scheme? Why not rather strengthen and broaden the existing agencies? I must, therefore, in order to answer those most relevant questions, try to suggest the basis of a working project.

1. The three Medical Corporations would each separately first discuss the proposal in all its bearings, and then if the general principle is approved, discuss it together.

2. If no insuperable initial difficulties present themselves to the Fellows, the Corporations would appoint a large and representative Joint Health Committee, with powers of inquiry and suggestion.

3. This Joint Committee would put itself into communication with public health officers, with representative medical men all over the country, with public health organisations at home and abroad, with public bodies, clergymen, teachers, and with any other person who could give practical information and advice as to unoccupied health fields.

4. The Joint Committee would then report the result of these inquiries and deliberations, and formulate a working scheme to the Corporations, who would finally discuss, amend, and authorise or decline it.

5. The cost of the working of any such scheme would be a most important element for consideration and arrangement by the Corporations. It is possible that on account of its obvious importance to the people and the State and its philanthropic nature, the public would place funds at the disposal of the Corporations for carrying it out, if it were suitably brought before wealthy and public-spirited citizens.

6. The scheme being essentially an educative not an administrative one, and its great aim being to reach the masses of our people, the most efficient means of such education would be the prime consideration, and the press and the other agencies mentioned in the paper are therefore obviously indicated as the chief of such means of education in health knowledge, resulting in health improvement and the creation of an efficient "Health-Conscience."

THE TREND OF OPINION IN OBSTETRICS[1]

By PROFESSOR STEPHENSON
University, Aberdeen

THE honour which the Council has conferred by asking me to occupy this Chair is one I highly appreciate, not alone for myself, but for the recognition so given of the University in the far north, with which I have been associated for more than quarter of a century.

An important function of this Association is to mould and direct medical opinion. In the sections, isolated and distinct

[1] The Introductory Remarks in the Section of Obstetrics and Gynæcology at the Meeting of the British Medical Association, Swansea.

questions only are discussed; the President, however, has the privilege, in the first quarter of an hour, of dealing with the subjects in their broader and more general aspects, viewed in the light of practice more than of science. The short time-limit, however, throws difficulties in the way, and permits only of the expression of a few thoughts, to suggest thought and mark the trend of obstetric opinion.

Those whose student days, like my own, date back forty years or more, are conscious of great advance in the science and of many changes in the practice of obstetrics. The word gynæcology was not in use then. That branch has grown into a stately tree since we were young.

It is interesting to recall the process of change in ideas and opinions through which we have passed as we moved along with the times. The younger generation, though acquainted with obstetric history, can hardly realise the wonder of a successful case of ovariotomy; or the difficulty experienced in the endeavour to shake off the dread of opening the peritoneal sac; or the shock the mind received when it was first proposed to treat post-partum hæmorrhage by the injection of *very hot* instead of cold water, as *icy* as could be got; or the astonishment and alarm that arose, when Hamilton of Falkirk first demonstrated the saving of suffering and life, to mother and child, by the frequent use of the forceps. Those who have gone through this process of gradual mental moulding are perhaps the better for the experience. It acts like the brake to the free-wheel of progress. 'Tis wise not to rush precipitately in where others have feared to tread. When light suddenly bursts on the darkness around us, it startles, and may cause alarm, but as the eye becomes accustomed to it, we see things clearly in their proper proportion and perspective, and modify our ideas accordingly. The mind may be convinced, but it is difficult to break at once with old habits of thought and action: hence perhaps the much to be regretted slow and still very imperfect adoption of strict antisepsis and asepsis in the general practice of midwifery.

A change of wide influence which is passing over the obstetric mind, and which is year by year becoming more extended, is the freer acceptance and more frequent application of the principle of interference, as contrasted with the non-interference

or delay in treatment, so strongly inculcated in former times. We recognise an increasing number of conditions in midwifery as well as in the diseases of women, where the risks and danger of temporising are great, and we now interfere *early*, because we can do so safely and with benefit to the patient, to a degree beyond the conception of our fathers. To them interference was a pious dread. Though conscious of a perilous condition of a patient, she was too often allowed to drift on into ever-increasing or recurring danger. Whether it be in the serious complications of pregnancy, in retarded or obstructed labour, in chronic affections of the pelvic organs, or in tumours of the uterus and ovaries, the problem of interference is ever coming up, and for its solution a higher standard of education is necessary than was deemed sufficient twenty years ago. It is not a question for experts alone: it lies primarily and largely within the sphere of the general practitioner. In gynæcology he need not have the knowledge of surgical technique or the necessary operative skill, but it is essential that he should have that amount of knowledge which will enable him to recognise the gravity of the condition, and know when to call in the services of the specialist. In midwifery the case is even stronger. He must not only be able to recognise the signals of danger and estimate the risk: he must, in the majority of cases, be himself the operator. The necessity for interference here often arises suddenly, without warning, and without time to summon assistance: he must act at once. It is important, therefore, that he should be master of obstetric technique as well as of general knowledge. This again demands a larger, more lengthened course of instruction than in many cases he has received.

Whilst the principle of interference is being extended in one direction, the dread of it, I regret to find, is being revived in another. Much power for good in medical attendance is being relinquished and discouraged, under what I believe to be much too exaggerated ideas regarding the introduction of sepsis by the medical attendant. The risk is one that can be guarded against, without abstaining from careful vaginal examination, and those simple aids to labour that experience has taught may be employed with safety and benefit to the patient. Judging from text-books, much of the teaching is in

this respect bad. No wonder men have frequent recourse to the use of the forceps, when *non-instrumental* aids to labour are mentioned only to be condemned; when they are taught that "all manipulations within the passages for the purpose of accelerating labour in normal cases are to be scrupulously avoided." Time does not permit of following out this point, I would simply remark that labour cannot be pronounced normal until it is completed; that in so-called normal cases there is often a tendency to drift very close to, if not into actual danger; and that risks and injury, greater than by the use of forceps, may result in a labour terminated by the natural powers, if some hours have been spent by the patient in ineffective effort which the practitioner could have saved with one finger. The counsel of "scrupulous avoidance" of aid, is soon disregarded as the practitioner acquires experience; what is deficient in our books is the discussion of the *how* and the *when* aid should be extended.

With the increase of knowledge, our responsibilities as practitioners proportionally increase. Many a student passes into the practice of his profession with but a scanty outfit of learning. The instruction imparted in a *three* months' course of midwifery is still in some quarters deemed to be sufficient. Some knowledge of the subject, I admit, may be taught in such a course, just as we find it compressed into the narrow limits of the smaller text-books,—"so handy in preparing for an examination." The one, however, in after life, proves as deficient for the practitioner's needs, as the other does for a book of reference in cases of difficulty. The profession has long been conscious of this deficiency, but the remedy sought to be applied is entirely in the wrong direction. Instead of increasing the amount of oral instruction, the cry has been to increase the number of cases the student should attend before he presents himself for examination, twenty, thirty, aye, say some even fifty. It is a great delusion to estimate a man's knowledge of midwifery by the number of deliveries he has conducted. Most men observe only what they have been taught, much or little, true or false, but nothing more —if even that. Hence the prevalence and tenacity of error, handed down from generation to generation. What is required is a fuller consideration of the needs of the general

practitioner; not as regards the simple management of normal labour, but the foretelling of danger and how to deal with the difficulties and complications he may at any time meet. Lectures, systematic and clinical, quickened by the influence of the living voice, and illumined by the personality and experience of the teacher, is the best mode of instruction. Text-books are afterwards necessary and useful, but, to make a student dependent upon them largely or wholly, is like the artificial rearing of infants on one or other of the substitutes for the natural milk of his *alma mater*. Text-books, like proprietary infant foods, are showing a tendency to increase in number, as well as in the commercial energy with which they are being pushed.

To remodel the medical curriculum of study is, I fear, as difficult an undertaking as to alter the fiscal system of an empire. My experience fortunately is, that it is unnecessary to wait for legislation. Offer the facilities, and students, as a rule, will avail themselves of them. In the Scottish Universities the midwifery course has always been one of a hundred lectures. Year by year I have experienced increasing difficulty in overtaking the subject in that time; but now, voluntarily on the part of the students, the number of hours in Aberdeen has been increased by a half more, and the time over which the study extends has been doubled. The student first attends a preliminary class, taught in summer by the assistant, in which normal labour only is dealt with. This enables him to begin his attendance on cases at the Maternity. Before he enters the systematic class in the winter session, he has thus acquired some knowledge of the subject, and is therefore better able to follow and grasp the teaching, and appreciate the bearing of the scientific on the practical work.

Further, the class is divided into small sections, one of which, in rotation, attends the tutorial practical class in the museum for an additional hour each day. There they examine and handle the pelvis, normal and abnormal; by means of the cadaver and models, they study practically the anatomy of the pelvic organs, the methods of examination, the mechanism of labour and the diagnosis of the lie of the fœtal head; they deliver breech cases, and apply the forceps in normal and

narrowed pelves any number of times. The museum is open to them at other times, so that they can pursue their practical studies by themselves. If properly conducted, this practical instruction enables the student to comprehend the subject quicker, and he learns how to operate better, than by many hours burning of the midnight oil over books, however profusely they may be illustrated. It better fits him to meet his responsibilities in after life than attendance on thirty or more cases where all may be normal, or if, fortunately for him, some are complicated, he is not allowed to operate himself.

Such a class should be made compulsory in all the schools. It is not meant to supersede attendance on cases, but it gives him what he is not likely otherwise to acquire in the time at his disposal.

In the present day there is a disposition to separate gynæcology from obstetrics. They are in a sense distinct, but they have so much in common, and are so wedded together in actual practice, that it is not good they should be put asunder. Yet a well-known obstetrician and gynæcologist lately said—"Gynæcology has made such progress that it has been divorced altogether from obstetrics"; and again, "the diseases of women have drifted away absolutely and entirely from the domain of the physician into that of the surgeon pure and simple."

There is here a dangerous undercurrent of thought, arising from a straining and limitation of terms. Obstetrics is the older word. As used down to recent times, and still retained in the title, "Obstetrical Society of London," it embraced midwifery and the diseases of women and children. The cord has now been cut and pediatrics has attained an independent position. But you cannot so separate midwifery from the diseases of women, or divorce the consideration of the gravid from the non-gravid state. If the term gynæcology is to be used co-extensive with the expression, "the diseases peculiar to women," then there is undoubtedly a medical as well as a surgical side: a fact too much, and in some instances "absolutely and entirely," lost sight of in the present day, especially in the text-books. According to its etymology the term includes all knowledge pertaining to the special functions of women; and strictly speaking, pregnancy and labour are but a part of the larger subject. In ordinary language, a part is often taken

for the whole, so when we speak of the class of Midwifery or the Obstetrical Society, there should be no limitation of the subject to the exclusion of the diseases of women.

Many a gynæcological case becomes surgical and operative, but the surgery "pure and simple" comes in only after the diagnosis is made. The subjects to be presently discussed in this section are good illustrations of how Medicine, Surgery and Midwifery must *all* be brought into action in the solution of many of the difficult problems of Gynæcology and Obstetrics.

THE EFFERVESCING SALINE BATH (NAUHEIM BATH) AND RESISTANCE EXERCISES IN THE TREATMENT OF SOME HEART CASES[1]

By A. D. WEBSTER, M.D., D.Sc., F.R.C.P.Ed.

THE treatment of heart cases by the effervescing saline bath is indicated in enfeebled states of the muscular walls of that organ, such as are due to physical strain; to psychical stress; to toxines, such as rheumatism, gout, alcohol and tobacco; to organic derangements of other organs, such as the digestive and generative; to conditions causing the state of ill-health known as "neurasthenic"; to general weakness after acute diseases, such as influenza and fevers; and also to some cases of valvular and mural lesions, leading to loss of nerve tone, nutritive changes, and consequent dilatation.

The Rationale of the Treatment.

The condition as regards symptoms of an enfeebled heart when the bath treatment is indicated, is usually one of *increased rate, diminished force, and disturbance of rhythm.*

As in nearly all enfeebled and dilated hearts, the condition is a complicated one, so is the present remedy in its multiple adaptation; and it would be quite as difficult to explain satisfactorily all the evils of the condition as the part played by the various elements of good in the baths and resistance exercises.

[1] Read before the Edinburgh Medico-Chirurgical Society.

The bath has the following ingredients and properties which combine to bring about the peculiar remedial results :—

1. In common with all baths the immersion of the body in a medium of different density and temperature to that of the air. (Ordinary water is 771 times denser than air.)
2. The saline substances—chiefly sodium and calcium salts.
3. The free gaseous constituent—carbon dioxide.

The peculiar elements are therefore the denser medium due to the presence of the salts, the salts and CO_2.

In order to come to an understanding of the part played by these ingredients in the water, we shall first look at each of the three factors—the water, the salts, and the gas respectively.

The ordinary water bath in the case of any healthy individual may be said, speaking generally, to have an action on the circulation according to the *temperature of the water.* Temperature is the most important factor in any bath, just as it is in any climate. Thus the ordinary cold plunge or spray bath decreases the rate and increases the force, while the simple hot bath on the contrary increases the rate and decreases the force of the *heart's beat.* A cold bath is taken for the effect of the reaction, while a hot bath is used for the more immediate effect of relaxation and perspiration which it induces. The condition of health is marked by a quick return, after either a cold or hot bath, to the normal rate and force of the heart for the individual. The blood pressure is constant. In states, on the contrary, of departure from health, for example, overstrain of the nervous system, or faulty primary or secondary digestion, or of both, or in that more general condition of the system known as "out of tone" or "out of sorts," the blood pressure is lowered and return to the normal rate, force and rhythm is not so readily observed. In such a state of ill-health, or at least of departure from ideal health, after a hot bath we feel enervated and after a cold one chilly and depressed with, it may be, dusky extremities and with one or more fingers blanched, blue and numb, "dead" for a time. These signs, less or more pronounced, tell plainly that the system is not in "good

form," and is unable, for the time being, to react quickly and healthfully after extremes of temperature; and on the whole, argue against the unadvised use of either hot or cold baths. The proper temperature for the daily bath in such circumstances would be a medium one, that of the temperate or the tepid bath. A warm bath, about 95° F., soothes the nervous system, while a tepid one gently stimulates it, and both determine blood to the skin, and accelerate tissue changes. (The saline ingredients may be mixed with the home bath, but it is not advisable to employ the effervescent in private houses where the bath-room is frequently of small size and insufficiently ventilated, and no skilled attendant is at hand. If, however, the bath-room be suitable, and the material of the bath basin of porcelain or wood, with due consideration and careful attendance while in the bath, a modified course could be carried out with the approval of the patient's medical adviser, who alone can regulate the course of baths or exercises so as to have the desired beneficial effect on the weakened heart and correct erroneous use of the remedies.)

The *saline ingredients alone* mixed in the ordinary bath, as we shall show to be the case more fully when speaking of the particular effect of the effervescing saline bath, will enable a delicate individual to enjoy a home daily bath at a higher temperature and receive from it the bracing and stimulating effect and benefit of a bath of a much lower temperature. Thus, a plunge bath with the salines in solution of the temperature of 85° to 95° F. will afford the bracing effect of an ordinary tap water bath of, say, 75° to 85° F. A familiar illustration of this truth is seen in the stimulation caused by a bathe in sea water as compared with one in river water of the same temperature. A difference equal to, say, ten degrees (– 10° F.) is observable, while with the stronger home-made saline bath, as compared with tap water, it is possible to realise a greater difference. This result has an enhanced bearing in the states of invalidism in which the special effervescing bath is indicated by the weak condition of the heart. The influence of a low temperature in decreasing a quickened pulse-rate can be observed at any time, if after a warm or tepid bath the cold spray is allowed to play over the body, when a reduction of ten to twenty beats is usually

observed. A similar decrease of rate follows the morning cold plunge, so common in this country that it has been called "the first article in the constitution." Everyone, both strong and weak, provided the temperature is suited to their case, may have the benefit of this "constitutional."

The effect of the *free carbon dioxide gas* in the bath is a powerful stimulation to the sensory nerves and the whole nervous system. Together the salts and the gas cause marked prickling of the skin. The skin becomes covered with innumerable bubbles. The gas as it were "crystallises" out of the water in contact with the surface of the body and the skin is intensely reddened.

The *effervescing saline bath* is a most powerful stimulant to the skin and tissues, both thermic and mechanical. The conditions also of osmosis are present when the body is immersed in the bath. The special field of its operation is the vascular system. In explaining its action on the heart, the subtle factor of a new remedy, and one in which the patient, long, it may be, confined to bed or to a chair, is allowed a certain amount of change and activity must be taken into account. "Hope springs eternal in the human breast."

CORRESPONDENCE between the therapeutic action of the complex physical remedy of the saline effervescing bath and certain recognised means in the treatment of heart cases. Speaking roughly the—

The Bath.			*Drugs.*
Temperature of	on the heart	=	Digitalis.
	„ vessels	=	The Nitrites.
Salines of	„ skin	=	Arsenic.
	„ tissues	=	Iron.
Carbon Dioxide of	„ nerve centres	=	Strichnine.
	„ muscular fibre	=	Electricity and Massage.

The combined effect of the bath may be regarded as a physical means of obtaining results similar in kind, if not in degree, to those obtained by the use of drugs and other re-

medial agents in the treatment of enfeebled conditions of the heart.

The temperature of the Nauheim bath is at first tepid or more often warm, up to 98° F., and gradually in succeeding baths lowered to about 70°. The saline and gaseous ingredients stimulate more strongly the lower the temperature, and possess the remarkable character of making the physiological and therapeutical effects of the bath correspond to those of a bath of a lower temperature.

Although it is common to begin a course at the higher temperature of 98° F., yet the bracing effect of this bath corresponds to that of a much lower degree but without the shock to the weakened heart of that low temperature. In fact, in feeble states the bracing, slowing effect on the heart of a cold bath is obtained. *The possible element of shock is eliminated.*

CORRESPONDENCE between the therapeutic action as regards the temperature of the water, of the saline effervescing bath and the ordinary tap water bath.

Saline Effervescing Bath—		Ordinary Tap Water Bath—
of temp. 90° to 100° F.	=	temp. 70° to 80°
„ 80° to 90° F.	=	„ 60° to 70°
„ 70° to 80° F.	=	„ 50° to 60°
„ 60° to 70° F.	=	„ 40° to 50°

This feature of the saline aërated bath is of therapeutic importance, as it enables delicate individuals and patients with weak hearts to obtain the bracing effect of the temperate, cool, or cold bath when the water is in reality hot, warm, or tepid.

The Observed Effects of Treatment.

The general result of the baths is a steadily increased sense of well-being. Sleep is induced, appetite improved, the skin is warmer and healthier in colour, and the body weight increases.

Some have examined the more immediate metabolic changes as ascertained by the increased excretion of urea and

CO_2, but speaking generally the improvement, after a period of a few weeks, may be shown thus :—

TISSUE METABOLISM, depending largely upon the energy in store in the nervous system, therefore varies with the varying condition of the individual.

Immediate, as shown by the increased excretion of CO_2 and urea and absorption of oxygen.

Remote, as shown after three to six weeks by—

Weight	. .	Increase of.
Skin	. . .	Ruddier.
Strength	. .	Increased.
Heart	. .	Impulse more distinct.
„	. .	Sounds more clear.
„	. .	Area of dulness more normal.
„	. .	Rate decreased.
„	. .	Force increased.
„	. .	Rhythm more regular.
Appetite	. .	Improved and patient experiences a steadily increased feeling of well-being.

The particular and immediate effects on the heart of the bath in a typical case are *decrease of the rate, increase of its force and a steadied rhythm.*

The bath produces a fall in the diseased pulse-rate of from four to twenty beats per minute, that is, a pulse-rate, the patient being at rest, of a hundred, will after immersion in the bath be found to be reduced perhaps to eighty, one of ninety to seventy, and in cases in which the rate has not been abnormally high there is in nearly all a fall but of lesser degree. Also, there is found to be in all cases, without exception, an improved character of pulse and fuller radial vessel.

These changes are observed to continue after each bath and during the intervals between successive baths, according as the case is one that is capable of more or less rapid improvement or cure, until gradually as the course progresses the rate, force and rhythm approach the qualities recognised in health.

The measurements of the cardiac area in dilatation are extremely variable. Certainly the gathering up of the

muscular walls of the organ is a constant phenomenon, and the cardiac area is demonstrably diminished at the time of the bath. I have chosen, however, rather to take measurements before beginning treatment and some weeks after when the changes were likely to be more permanent and less uncertain than they must necessarily be at a shorter period. However, a great deal can be said for these measurements at the time of the bath, or at the time of the resisted exercises, and they form a graphic picture when demonstrated on the chest wall or delineated on paper. But as the heart, more especially under middle age, is such a changeable, sensitive and elastic viscus, very likely similar though temporary and not so great changes in size could be marked in any individual in the course of a common day with its mental stresses and emotions, its physical alarms and shocks; or again, in exercise and strain, or under the influence of stimulants on the one hand and of narcotics on the other.

The Artificial Bath.

The ingredients of the bath are in forty gallons of water, of temperature as ordered, 8 to 12 lb. of sodium chloride (common, coarse or sea salt), and ½ to 1 lb. of calcium chloride (best stored in bottles as it is deliquescent), which make the water turgescent and buoyant, along with the effervescent ingredients such as dilute hydrochloric acid and soda, or the compressed tablets sold by chemists for the purpose.

During the first bath, while the patient is reclining in the bath the pulse can be felt, and also the particular action of the bath on the skin and breathing observed by the physician. If the effects are satisfactory a course of baths taken either daily or on alternate days can be proceeded with solely under the care of an intelligent bath attendant. Similarly in a fairly strong patient the first exercises and the effect they produce on the patient should be observed and regulated by the physician, and afterwards, under occasional supervision, an intelligent nurse, male or female, can be entrusted to carry out the instructions given. In very feeble conditions skilled hands are essential.

The attendant arranges everything necessary to the patient's comfort and convenience before and after the bath.

The patient is urged to do nothing that can be done by the attendant. This is an important rule, as the least voluntary effort is so much against the anticipated result aimed at by the treatment. The attendant should have ready warmed towels, a comfortable chair for the patient to sit in while being gently dried, and a suitable couch on which to lie for an hour before dressing. All patients are the better of a little hot beef-tea soon after the bath before resting. It is a very common experience to sleep through this hour of rest.

After the first immersion in the effervescing bath, the patient is, as a rule, quite at home, no longer nervous, enjoys the bath, and looks forward with a degree of pleasure to its repetition.

Any blueness of the lips while immersed, or embarrassment of the breathing, may be due to the inhalation of too much CO_2, but in a large bath-room this inconvenience is eliminated. Means should, however, be used, when accumulation of carbon dioxide is apprehended, by the attendant, by the use of a fan or regulated ventilation, to enable the patient to breathe, while in the bath, pure air. A towel across the bath and one edge of it depressed under the chin answers quite well in most cases and is agreeable to the patient.

TABLE OF REGULATIONS OF THE ARTIFICIAL SALINE AND EFFERVESCING BATH (Nauheim), as used in Edinburgh.

A Course consists of 12, 16, 20 or 24 baths. Each course is divided, as regards strength of ingredients and temperature, into 4 sets of 3, 4, 5 and 6 baths.

The Ingredients are sodium salt, calcium salt, and the effervescent. In 40 gallons of water there are—

	Sodium Salt.	Calcium Salt.	Effervescent (Sandow's Tablets).
1st set .	4 lb.	4 oz.	2 lb.
2nd „ .	8 lb.	8 oz.	2 lb.
3rd „ .	12 lb.	12 oz.	3 lb.
4th „ .	16 lb.	16 oz.	4 lb.

The Temperature of each set is 3° to 6° F. lower than the preceding set, or each bath of the whole course is 1° to

2° lower than the preceding one. The initial temperature is in each course 95° F. in summer and 98° in winter.

The Duration of the first set of each course is 7-8 minutes, of the second 8-10, of the third 10-12, and the fourth 12-15 minutes.

The Bath.—The attendant to have every requisite at hand and carefully arranged so as to avoid excitement or chill of patient, and to be always at hand.

The pulse may be felt while resting before the bath and again after two, four, etc., minutes' immersion, also after the patient has rested and the various changes that are observed noted.

General Directions.

Two hours before lunch or dinner is recommended as the time most suitable for the bath to be taken.

The temperature of the room should be about 65° F.

On leaving the bath the patient should sit in a warmed bath-sheet and be gently dried, not by self, but by attendant. Then the patient, wrapped in a dry bath-sheet, should lie in a bed, lightly covered with a blanket, for one hour.

Before resting a teacup of hot fluid (beef-tea, etc.) may be sipped.

A light, warm overcoat or cloak is advised to be worn for outdoor use after the bath.

If time can be given, it is best to first have the course of baths, then a few weeks' rest, followed by a course of resistance exercises. But if the available time be limited the baths and muscular movements may be taken together.

The Resisted Movements.

Dr Schott says that "his system consists of slow movements made by the patient and resisted by the operator." The patient should be lightly and loosely clothed, and is told to breathe naturally.

The operator must watch the patient's breathing, which should not be in the least oppressed, and the operator must be very particular to graduate his resistance to the patient's strength, so that the patient always remains master of the situation.

All the ordinary muscular movements of the arms, legs and trunk are suitable for these exercises. (See Bezly Thorne, chap. ix., for illustrations.)

The physiological effect and therapeutical object of the resistance exercises is to facilitate the flow of blood through the arteries, particularly the pulmonary vessels, and thus diminish the engorgement of the central organ of the weak circulation. They allow the dilated chambers to contract more fully, and stimulate them to do so.

The observed effects on the heart are the same as those produced by the saline effervescent bath. *The rhythm is corrected, the rate decreased, and the force increased.* These effects are the same in kind but less in degree after the exercises than after the bath. In pathological bradycardia the rate is increased, and the force increased, while ordinary exercise slows such a heart and decreases its force. By analogy the bath would have the same effect, but I have little proof of this, not having had the opportunity of observing a marked case of bradycardia under treatment by baths. Case VI., though not in this category, illustrates what is frequently observed, that is, the first few baths decrease the pulse-rate perhaps to 40 or 50, and as the heart gains in general tone, the pulse-rate, with subsequent baths, does not reach this low figure, but gradually is steadied at 60 or 70, the normal rate for the individual.

Resistance exercises more immediately relieve the right heart, while the bath in its primary effect relieves the left ventricle; and as both ventricles act synchronously or tend to do so, the heart as a whole receives the benefit of *either* the baths or the resisted movements. So in certain cases the one or the other is more indicated.

The difference between the effects of ordinary muscular movements (as in gymnastics) and the resisted movements is largely due to the breathing being of an opposite character in the two cases. The mental attitude is also different and opposite. Ordinary gymnastic exercises are done with a certain explosive effort of the will, whereas in the resistance exercises the effort is of continued intensity and always within the enfeebled strength of the patient. *The possible element of strain is eliminated.*

But it is the breathing which influences the heart so much. In all ordinary forcible muscular movements the glottis is closed and there is a strain put upon the heart by the increased inter-thoracic pressure. This strain is exaggerated in diseased conditions of the organ. Whereas in the resisted movements the breathing is easy and unretarded, and the pent-up venous blood freely circulates through the lungs and there is maintained a better pulmonary and general circulation. Ordinary gymnastic exercises may dilate the feeble heart still more, while resisted movements contract the walls of the organ. In lowered conditions of the general system the *state* of the heart often determines the physical treatment. A sound heart gives the indication for treatment by ordinary and gymnastic exercises, ordinary baths and massage, while a feeble and dilatated heart affords the indication for treatment by the saline effervescing bath and resistance exercises, under which both the heart and the general condition are repaired.

The resisted movements can be used as a remedy in the very feeblest conditions, as they admit of very fine graduations suitable to the patient's strength, the effect produced depending upon the amount of resistance and the time of its application.

Case I. 2nd April 1899. *Female, age* 56. *Occupation—Nurse Superintendent.*

Complains of general loss of staying power—inability to walk, talk, be interested, write or read, of occasional periods of physical and mental distress, and of breathlessness on exertion.

History of Present Illness.—For fully two years has felt unequal to her work, though she has persevered in doing it as before. Short periods of rest in bed and change of scene have done little good, for the breathlessness has continued and the muscular exhaustion has increased.

The Family History on both sides is one of heart disease.

Individual History.—During seven years of adolescence she lay in bed with what was called general weakness and spinal irritation. Ten years ago P. took courses of nursing and of invalid cookery, and has led an active life since, in charge of convalescents.

Present Condition.—Height, 5 feet 10 inches. Weight, 120 lb. Fair complexion. Wasting of fatty and muscular tissues.

Circulatory System.—The cardiac impulse is feeble, so that even through the thin chest wall it is hardly to be felt. The

apex is displaced outwards one inch beyond the nipple line, and five inches from mid-sternum. On auscultation there is a diffuse, soft, systolic murmur, and frequent reduplication of the first sound. The second sound is more distinctly reduplicated, but a more or less distinct whiff makes it uncertain in character. The pulse is 100, soft and small, and intermits once in every four or five beats. Appetite feeble and P. confined to bed.

On the 13th April Dr Balfour kindly saw her, and advised complete rest, arsenic and digitalis, and considered the case a suitable one for the Nauheim baths.

On the 19th the patient was removed to a house near, where she remained in bed for a week before the first bath—the second being given three days after.

Baths—Temperature 98° F.; 5 minutes' immersion.

	Pulse—Before.	During.	After.
28th April, 1st Bath	120	100	100
29th „ 2nd „	100	80	88
1st May 3rd „	88	80	88
3rd „ 4th „	100	80	about 80 irregular

By Dr Balfour.

On the days on which no bath was given, the simplest resistance exercises were carried out. The improvement was slow, but by the third week and during the fourth, both the bath and exercises were better borne, and were given on alternate days. During the fifth, sixth and seventh weeks on each day both the bath and exercises were given. The cardiac impulse and the apex beat were now distinct and in the nipple line—four inches from the mid-sternum—while the heart sounds were stronger and clearer and the pulse reduced to 80 and regular. Patient was able to be up and about, and to resume her usual minor occupations. Weight 128 lb. Having spent some weeks quietly in the country, the improvement in her general health was so marked that she desired to take up her nursing work again. Dr Balfour decided in the negative, recommending her to continue in a quiet life. This she did, having, after some gardening operations in September, one severe attack of breathlessness with palpitation, which, however, passed off with a few days' rest. She was now up about eight hours daily, and able to do most of her household work without breathlessness or exhaustion, and also steadily gaining in weight and in muscular tone; so that, if she had not had a sharp attack of influenza the following spring, which again disabled the heart for a time, improvement would have continued.

Note.—Four years after. The heart has become stronger and

the pulse hard. A neurasthenic condition keeps patient much confined to bed, but nerve rest, regulated diet and muscular exercises are overcoming this condition.

Case II. 15*th July* 1899. *Female, age* 60. *Occupation—Medical Practitioner.*

Complaints.—Breathless attacks and distress in the chest, nausea and sickness, muscular and general exhaustion.

History.—Rheumatic and digestive ailments influenced P. to reside for some years past much abroad. P. of energetic habits and active life. P. has had several attacks of influenza—one two years ago, after which the heart suffered severely. Dr Macdougall of Mentone recommended La Bourboule in order to obtain the double advantage of high altitude and the arsenical baths, which proved beneficial in hastening convalescence. Last winter P. was again attacked with influenza, and was confined to bed the whole of March and part of April. The heart suffered again, and P. has not been well since. On the way to Scotland P. was detained in London with cardiac attacks and weakness, and was seen there by Dr Charles and also by Dr Margaret Todd. Dr Todd writes of this period: "The pulse was feeble, of variable force, and very irregular in rate, varying from 4½ to 8 beats in the five seconds. There was no intermission. The apex beat was imperceptible to the eye and to touch. On auscultation the sounds were rather feeble in all areas. In the mitral the first sound was specially so; it was much more forcible over lower end of the sternum and to the right of the sternum. I can best describe it as a half-hearted sound; it was not quite pure, but there was no distinct murmur. My impression is that the second sound in both the pulmonary and aortic areas was slightly accentuated. I diagnosed the dilatation partly from the character of the irregularity, the absence of distinct murmur, and the relative force on auscultation of the right ventrical impulse. There were also the signs of backward pressure, to which the patient herself drew attention."

Present Condition.—Face pale, thin chest walls, and generally sparse muscular development. Small frame, P. lying in bed, and has been squeamish and several times sick since arriving in Edinburgh yesterday. P. is giddy and faint on raising the head, and complains of exhaustion, and that for many weeks there has been distress and pain in the cardiac region, and of sinking feelings, more especially on waking from sleep, which has been broken by dreams and distressed wakenings, with breathlessness.

Heart.—Outer border of deep dulness at the level of the

fourth rib is 4½ inches from the mid-sternal line. Impulse feeble, apex beat uncertain, rhythm irregular. First sound muffled with a systolic murmur, second accentuated. The pulse is soft and irregular, and the rate 64 per minute.

July 16th. Dr Balfour kindly saw P., and recommended arsenic, strichnine and digitalis, and rest in bed. After a complete rest in bed for a week she began a course of saline effervescing baths.

Pulse.—At rest before first bath . 64 irregular.
during „ . 60 more regular.
after „ . 64 „

The force and rhythm of the heart gradually improved, till in a letter, dated 31st August 1899, P. writes: "Hearing you were not expected to return till end of next week, I went to ask Dr Balfour if he thought I might go to the country. He thinks me greatly improved, saying there is no longer any cardiac murmur, and that he thought the change might do me good, so I have decided to go to-morrow, and am taking my twentieth bath to-day. I am sure they have been beneficial."

Case III. 18*th February* 1899. *Female, widow, age* 37. *Occupation—Household.*

Complains of being tired and unable to do her ordinary duties, of breathlessness and palpitation, and of faintness on exertion.

History.—Naturally of an active disposition, for the last two years she has been unfit for ordinary duties. Six months ago she went under treatment for about six weeks in a home for congestion of the uterus, but at that time her heart was weak and irregular, and was considered to be one of the chief factors in the causation of her pelvic condition. She has gradually become unable to take even a short walk without faintness and distress.

Present Condition. — P. is tall and corpulent. Her face usually full and of good colour, is anxious and pale. Sitting up in bed produces breathlessness, uneasiness and nausea. The pulse is 64 per minute and very feeble and irregular. One fuller beat is followed by four or five feebler and variable beats, and occasionally a beat is dropped. The apex, which can hardly be located by the stethoscope, is 5½ inches to the left of the mid-sternal line. Heart sounds are feeble and uncertain, and a soft systolic murmur is to be heard over the pulmonary area. The chest wall is too full to clearly make out the limits of cardiac dulness. She has œdema about the insteps and ankles, and there is catarrh of the alimentary tract.

Diagnosis.—Cardiac dilatation.

Treatment.—Rest in bed, strophanthus and strychnine.

Dr Affleck saw P. in consultation on February 21st, and found the heart feeble and dilated, and considered the baths would do good after further treatment with the cardiac tonics and sufficient rest in bed to make exertion safe.

She was about to begin the bath treatment in March, when confined to bed for nearly two months with a severe attack of influenza. During convalescence from this she had frequent cardiac breathlessness and nervous fainting attacks, and so when P. was able to begin the baths the condition was even worse than has already been described.

6th June—First bath—Pulse	before	84 irregular.
„ „	during	72 steady.
„ „	after	76

15th June. Dr Affleck observed the pulse at the fifth bath drop from 80 to 75 and to 70.

22nd June. Irregularity had almost disappeared, and the rate had come down to 66 during the bath, and at rest afterwards 72.

During the course of baths and resisted exercises steady improvement was made. P. then went to the country for the summer months, and since that time, that is for the last four years, has had no relapse and been able continuously for her household duties.

Case IV. 2nd April 1901. *Female, age* 38. *Occupation —Housewife.*

Complains of pains all over and especially in the left side of the chest, and of being weak and useless.

History.—P. is subject to quinsy, her last attack being a tedious one three months ago. It was followed by muscular rheumatism and she has not felt herself since.

Present Condition.—P. of small frame and muscles, of active disposition, confined to bed. Temperature 99, pulse 80 and very irregular. P. says she has had for some weeks throbbing, bursting, excruciating pain which rushes up her back, and over her head, and that she is not nervous. Her digestion is feeble, and bowels constipated.

Circulatory System.—The apex beat can scarcely be felt, and its exact location is uncertain. The heart sounds are feeble and reduplicated. Fluttering and tremors in the chest trouble her but she can lie down and is not subject to breathlessness.

The pulse is small, easily compressed and markedly irregular—12 to 15 beats being dropped per minute.

Having erythema nodosum on the legs, and having so recently had quinsy and muscular rheumatism, P. was kept in bed and given salicin, soda and rhubarb and digitalis, 8 drops each night. P. is always extraordinarily sensitive to the action of medicines. In a fortnight P. went to the country to rest, but returned on 16th May with the rheumatism improved, but with aggravated heart symptoms. The superficial cardiac dulness had increased and extended to 4½ inches to the left of the mid-sternal line. P. had cardiac pain and pain radiating down the left arm, marked tremor in the chest and uneasiness in the head, and dizziness—though the removal of some wax from the ear greatly alleviated the latter symptom. P. also suffered from marked general muscular weakness, especially in the legs, which often came to a standstill, so that there was inability to go even a short walk.

Sleep was broken; P. was often wakened almost by a sensation of being throttled, the chest seeming constricted. This attack would usually pass off with a burst of pulsation in the head and general suffusion of the head and face. P. had also during the day attacks of chest distress and pain, and pains down the left arm. The whole left half of the body to sensation was cold. P. had warm brine sponging and saline baths at home, preparatory to the course of saline effervescing baths. The latter were continued for six weeks, with two or three days' interval. The general symptoms and condition improved, the pulse from being 80 and very irregular gradually decreased in rate to 72 after the 8th bath, with only 2 or 3 drops in the minute. After a course of sixteen baths the left border of the superficial cardiac dulness was lessened by one inch, in fact the heart had regained its normal dimensions. On auscultation the sounds were clearer and the impulse stronger. P. now has pain and fluttering in the chest and throbbing of the head only occasionally and on exertion. P. is able to walk, while sleep is more natural. From this time there has been slow but steady progress to recovery.

In this case the immediate effect of the bath was not noted, as it was not considered necessary to visit her in her bath. Symptoms of neurasthenia were as much marked as heart symptoms, and so the interest and mild excitement of the new treatment, and the necessary resting after each bath, as well as upon the return home, also acted helpfully.

Case V. 8th March 1900. *Female, aged* 52.

Complains of having been weak and useless for several years.

History.—P. of active habits. Has suffered for the last five years from all the rôle of symptoms associated with the menopause, which have now passed with the exception of those depending on the circulatory system—swelling of the veins of the legs, to which P. was subject during her pregnancies; face flushing and palpitation, which have rather increased than diminished.

Present Condition.—Height, 5 feet 10 inches. Large frame, good muscular development and not much tissue fat. Of exceptional intelligence and energy. P. is in bed and suffers from distress and uneasy feelings in the chest, throbbing in the head, and on rising a bursting feeling in the legs, which are covered as well as the ankles and insteps with angiomatous macules.

Pulse 64, soft, intermittent—a drop every 3, 4 or 5 beats, and variable in force. Pulsation in brachials and radials visible.

Heart.—The apex beat is feeble and is most apparent by auscultation in the fifth interspace outside the nipple line. At the level of the fourth rib the superficial dulness extends four inches and the deep five inches from the mid-sternal line. The first sound is indistinct, reduplicated and variable, the second is also reduplicated, but there is no murmur.

The distress in the chest is intermittent, worse during the night, especially on wakening, and is accompanied or followed by flushed and full feelings of the head. There are irregular thumps in the chest which cause anxiety. The veins of the neck are full and pulsate irregularly. The veins of the legs are turgescent, and the insteps, ankles and tissues over the tibia pit on pressure. The stomach and other abdominal viscera are congested.

The saline and effervescent baths were begun, and a steady improvement was observed, so that after a course of twenty baths spread over six weeks, P. felt stronger, and her vascular and heart symptoms were much less marked. P. had too many social engagements to devote the full time to the necessary rest after and between successive baths, otherwise the result would have been a better one. However, the course of baths and resistance movements set up a change for the better, which continued afterwards, and the heart has been in a fairly good condition since that time, three years ago, but is liable, as after one attack of influenza, to show signs of dilatation. Still on the whole the P. is quite strong and of exceptional activity.

Case VI. 1*st February* 1899. *Male, age* 17.
Occupation—Insurance Clerk.

Complaint.—Precordial pain and nervousness. A large quantity of albumen had been discovered in the urine the day before by Dr Playfair, who had examined for the purpose of promotion in office.

History.—P. has been a boy of exceptionally athletic habits. At school in boys under five feet gained the high jump prize five years in succession. At fifteen was in advance of most fellows a year and had done a great deal of work, such as a quarter of a mile a minute and eighteen feet in the long jump. In the winter 1896-7 had run with a club every Saturday and the following winter played football regularly from autumn to spring. Had carefully trained for the following season 1897 and had won several races in open competition. But in the next year, 1898, in June had run a race while out of training. Immediately after the race was fagged as never before, could neither sit nor lie down, continued puffed and was squeamish. Ever since this race P. has not been himself, but easily tired, out of sorts, with uneasy chest and breathing not good. The character of the chest pain was usually that of a sudden twitch, arresting work for the time being, but often of a milder kind, causing P. to be uncomfortable with restraint, palpitation and nervousness. Of late attacks of pain have been more frequent and severe; one attack a week ago was accompanied with breathlessness and distress, and left a shaky, nervous feeling all day.

Present Condition.—Height 5 feet 9 inches. Weight 10 st. 5 lb. Appearance—of good muscular development, sallow skin, extremities bluish. The cardiac dulness extends transversely 4½ inches superficial and 5 inches deep at the level of the fourth rib and in the standing posture. The apex beat is most distinct to auscultation outside the nipple line 4½ inches from mid-sternum. The impulse is feeble and there is a faint systolic bruit over the mitral area, making the first sound indistinct and reduplicated. The second sound is also reduplicated. The pulse is soft, irregular, and beats 64 per minute.

The urine shows a large amount of albumen on boiling with nitric acid.

Treatment.—Rest in bed and strychnine. After three days Dr James kindly examined him and found the heart somewhat dilated but not far from normal. The albumen was much less. After ten days in bed albumen had entirely disappeared and P. got up. Albumen continued to reappear on exertion, and Dr Playfair recommended six months' interval before reappearing for examination. P. on going about often had chest pain and

the area of cardiac dulness was very variable; on one examination fairly normal and again very much extended, but the apex beat was never inside the nipple line. Generally P. was "out of sorts," easily fatigued, extremities cold and the skin and lips blue. The pulse beat 60, was feeble, variable and irregular.

Diagnosis.—Sub-acute dilatation. In this case it appears to be an aggravated form of that commonly seen temporarily after any violent exercise, or prolonged tramps in youths, and to a less extent in many feebler adolescents after ordinary exertion.

Treatment.—Rest, strophanthus and strychnine. A course of Nauheim baths was begun, with the following results:—

7th March 1899.—1st bath. Temperature of bath 96° F.

Pulse rate—

Before undressing	64
During the bath—	
2 minutes after immersion	58
5-10 „ „	54
After the bath after an hour's repose	58

9th March 1899.—2nd bath. Temperature of bath 94° F.

Pulse rate—

Before undressing	58
During the bath—	
2 minutes after immersion	48
And remained during the whole bath of 12 minutes at	48
After the bath after an hour's repose still	48

28th April. *Note.*—The baths were continued one every two or three days. The condition of the heart as to the rhythm, force and rate, gradually improved until after a course of 20 the pulse is regular, of good volume, and the beats 68 per minute; the dimensions of the dulness are more constant—transverse dulness at level of fourth rib

4½ inches deep
3½ „ superficial.

The apex beat in the standing posture is just inside the nipple line.

2nd August. *Note.*—No trace of albumen in the urine and no sign of the cardiac dilatation.

13th September. *Note.*—After a sea trip nearly a stone heavier than last February, viz., 11 st. 2 lb.

Since that time, now four years ago, he has been quite well, though he has given up all violent muscular exercise.

LITERATURE.

Theodor Schott, various papers.

W. Bezly Thorne, "The Schott Methods of the Treatment of Chronic Diseases of the Heart" (4th Ed. 1902), *Brit. Med. Journ.*, March 9, 1895, p. 524.

Sir H. and E. P. Weber, "The Mineral Waters and Health Resorts of Europe" (1898).

W. Winternitz, art. "Hydrotherapy" in Von Ziemssen's *Handb. of Sen. Therapeutics* (Eng. trans. 1886).

SOME REMARKS ON PERNICIOUS ANÆMIA

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A VERY great deal of interest has recently been aroused among the public and the profession by the Christie will case, and many interesting facts in regard to pernicious anæmia would probably have been brought out by the medical evidence had the case not been settled out of court. Some of these, which throw sidelights on the disease, I propose here to allude to.

The medical facts of the case were briefly these (they have all been published either by Dr Strachan, or in the newspapers, and may therefore be quoted without impropriety): Mr John Christie, of Cowden, who had been a man in good health save for occasional attacks of hay asthma and intestinal irritation, had in 1887, when he was 64 years of age, an attack of anæmia, which was diagnosed by many competent observers as pernicious anæmia. From the first it was of chronic type, as it began apparently in the summer of 1886 with diarrhœa, and it was not till the summer of 1887 that the anæmia became extreme (Strachan, *Brit. Med. Journ.*, 1888).

Towards the end of July 1887, Mr Christie had a slight attack of pneumonia, lasting for a few days only and with a temperature never above 102°, but this was sufficient to cause coma lasting more or less for forty-eight hours, and brought him nearly to the point of death. From the time of his awakening from the coma he steadily improved. He was treated with arsenic, and it was found that the comparatively small dose of two drops of Fowler's solution thrice daily was enough, and that was continued with intervals for almost the whole of his life.

He lived, however, till 1902, which gives a duration of

fifteen years, and was in fairly good health for a large part of that time, though he always suffered from dyspepsia, sleeplessness, etc. He seems never to have been quite free of his anæmia, but attacks could generally be warded off by taking arsenic. In 1893, however, he had a pretty sharp relapse. It was of course his mental condition, and especially his power of making a sound will, which was in dispute. Before his illness in 1887 he was devoted to his family; after it and until his death he was more and more estranged from them, and this feeling culminated in his making a will by which he bequeathed almost the whole of his very large property to charitable objects, especially to certain Orphan Homes which he had founded. Other points which showed that he was eccentric in some respects were brought out in the trial, but there seems no doubt that his business faculties were unimpaired, and that it was mainly the emotional side of his character which was affected by his disease.

The first point which may be discussed is the causation of pernicious anæmia. In Mr C.'s case there was a history of long-continued intestinal irritation, which one might presume was the causal condition, were it not that the present tendency is to regard the gastro-intestinal atrophy and the resultant diarrhœa, etc., as a symptom of the disease and not its cause. Few, if any, hæmatologists accept Hunter's view that pernicious anæmia is a septic disease, starting from a streptococcal glossitis due to drain poisoning (*Lancet*, Jan. and Feb. 1903). Hunter's theory seems now to have definitely crystallised into this form, though it is not easy to be quite sure of his exact position, as his critics have found. Glossitis or a history of it is not found in every case; indeed it is now quite well known that people who have perfectly healthy mouths may be attacked, and the occurrence of pernicious anæmia after malaria, and its cure by the expulsion of offending bothriocephali, prove quite definitely that other causes may be at work. It will probably be found in the long run that the disease may result from many different causes, or at any rate predisposing causes, if there be in addition one special hæmolytic agent concerned.

Another of the weak points of Hunter's work is the stress he lays upon the special character of the hæmolysis in pernicious

anæmia, and upon its pathological expression in the deposition of iron in the liver. The actual amount of iron in the liver in this disease varies within very wide limits, and I have seen in other conditions, especially in lymphatic leucocythæmia, a very much greater amount of iron in the liver than is found in probably the majority of cases of pernicious anæmia, and in the acute forms of lymphatic leucocythæmia again, the hæmolysis is much more rapid, and often more extreme than in pernicious anæmia. It seems to me very likely that we shall shortly have to revise our conceptions of the pathological relations of these diseases; but there is of course no doubt that as a clinical entity pernicious anæmia can in the immense majority of cases be sharply defined.

All that can really be said with certainty as to the causation of the disease is that it is evidently due to a poison (let us avoid the word toxin), which in many cases is absorbed from the alimentary tract, and which produces three cardinal sets of symptoms, those connected with the blood, with the alimentary tract, and with the nervous system. In no case apparently do these three sets of symptoms fail, but there is not only no necessary relation in severity between them, but even a marked incongruity. This is especially the case as between the nervous symptoms and the blood condition. Many cases in which anæmia is well marked have little or no nervous disturbance beyond slight paræsthesia, while cases which are but slightly anæmic may have marked nervous symptoms, and these may come on in some cases before the anæmia sets in, sometimes long afterwards; may improve as the anæmia improves, or may remain unaffected. This was a point which of course bore very special relation to Mr C.'s case. The nervous symptoms are usually referable to the spinal cord, which is strictly in accordance with what we know of the lesions produced by toxin-caused diseases, but this is not invariably the case.

It is, I think, hardly sufficiently realised that there are at least three fairly distinct clinical types of pernicious anæmia,—the acute, the sub-acute relapsing, and the chronic forms. The acute die in their first attack in a few weeks or months. The sub-acute cases usually recover from their first attack, remain comparatively or completely well for a varying time, and die

in a first, second or third relapse; they are, perhaps, the most frequently met with. The true chronic cases are rare, and Mr C.'s case was probably one of the best examples in the literature. They occur usually in people at or past middle life, and may have a fairly sharp attack to begin with. Thereafter, they may to all appearance recover completely, though they are seldom as vigorous as before the disease, or they may have occasional slight relapses, or may never be quite free from anæmia.

It would, of course, be of immense value if one were able to predict, from the blood or from the clinical symptoms, to which of these divisions a case is likely to belong, but this it is impossible to do in the great majority of cases. While, on the one hand, most of the chronic cases are in elderly people, the most acute case I have ever seen, which lasted only a month, was in a man over sixty. The blood gives less help than might be expected, and all that one can say is that the more typical the blood is, that is, the lower the number of red corpuscles, the more megaloblasts present, the higher the colour-index, etc., the worse the case is likely to be. Cases with much hæmorrhage from mucous surfaces, with much temperature, with a rapidly falling blood-count, generally do badly, but one must not forget that the very worst case on record recovered. Coma is a very bad sign, especially if it is due purely to the intensity of the disease; if it is due to such an intercurrent condition as pneumonia, as in Mr C.'s case, it is of less serious import. I have seen several such cases recover, but only one case recover from the essential coma.

Mr C.'s case was of unusually long duration, but it is not unparalleled. The longest case on record of recovery from pernicious anæmia is one of Pye-Smith's (*Guy's Hosp. Rep.* 1882, vol. xli., p. 277; Hale White, *ibidem*, 1890, vol. xlvii., p. 168; and Colman, *Edin. Med. Journ.*, March 1901, p. 14 of reprint). The first attack in this case was in 1880, and was fairly severe. He recovered under arsenic, had several slight relapses, but was alive and well in 1901 at seventy-two years of age, having apparently, like Mr C., outlived his tendency to anæmia.

Next is a case of Dr Bramwell's (*Anæmia and Diseases of the Blood-forming Organs*, 1899, p. 111) of a man of 38, who

recovered entirely from his first attack, a severe one, under arsenic, and remained quite well for twelve years. He then relapsed, and after a temporary improvement under arsenic, died thirteen years and nine months after the first attack. A case of Malthe's (referred to by Laache, *Deutsch. med. Woch*, 1891, No. 5) comes next in order. The man was a mason, who had several relapses, always cured by arsenic, so that he was able to resume his work between times, but who died ten years after his first attack.

In 1895 I saw a lady, the patient of another doctor in Edinburgh, who suffered from undoubted pernicious anæmia, sufficiently severe to render transfusion necessary on two occasions. She was more or less anæmic for about two years, but has now quite recovered. Cases which last from four to six years are more frequent, but how rare the chronic cases are may be realised from the fact that Cabot analysed 110 cases, not one of which lived longer than four years, while the average duration is probably under one year.

It is of some importance to know whether these cures are real recoveries or merely prolonged remissions. I do not recall that in any case where I have had the opportunity of examining the blood in these cases I have found it absolutely normal. There have usually been a fair number of megalocytes present. Lazarus ("Progr. pern. Anæmia," *Nothnagel's System*, vol. viii.) states that even when the blood is apparently perfectly normal to all the usual tests, there are always some "punctated" red corpuscles present (basophile granulation), and that even in these cases he has found the heart easily excited, a greater or less tendency to hæmic bruits, and to the occurrence of œdema. These facts should help one in diagnosis.

The diagnosis of the disease in general is a matter which varies very greatly in difficulty. Sometimes a glance at the patient, and the most cursory examination of a stained film is all that is required, but in the majority of cases the most minute examination of the blood and the patient is necessary; the search for megaloblasts in particular is often the most tedious of employments, while the necessity of excluding other possible causes of anæmia in doubtful cases makes the most careful examination of the patient requisite. The points in the blood on which one has come to lay most stress, apart

from the diminution in number of the red corpuscles, are (1) a high colour-index, that is, the presence in the average corpuscle of a greater amount of hæmoglobin than is normal, or what is its equivalent in the stained film, an excess of megalocytes or large red corpuscles, (2) the presence of megaloblasts or nucleated red corpuscles of large size, or where normoblasts are also present, an excess of megaloblasts over normoblasts; (3) a diminution of white corpuscles, unless there is some complication present which would cause leucocytosis, such as pneumonia, and an increased percentage of lymphocytes among these.

As the systematic examination of the blood becomes more general, and more a matter of routine in the investigation of doubtful cases, I think it will be found that pernicious anæmia, especially of the chronic type, is more common than we have been in the habit of imagining, and that the severe attacks of anæmia and gastric disturbance which seem to usher in a case are often only an exacerbation of a condition which has long been going on unobserved. I have seen several cases in recent years which bear this out. It is hardly necessary to say that treatment in these early, hitherto undetected, cases would have a much greater chance of success than after the acute explosion has occurred.

I do not propose to discuss here the relation of pernicious anæmia to insanity. That it has a powerfully deteriorating influence on nervous tissue is evident from the spinal symptoms which are so frequent, from the apathy or irritability which in turn affect the sufferers from it, and from the coma or delirium, which so often precede the fatal termination. But the disease is so almost uniformly rapidly fatal that it is only the chronic cases which have the chance of developing an insanity which is likely as such to attract the notice of their friends or their physician. Among these, insanity, considering the small number of possible candidates for it, is not altogether uncommon; I have seen several cases, and have heard of more, and the want of congruity between the severity of the anæmia and the nervous symptoms makes one wonder whether cases of insanity may not sometimes owe their origin to a slight or unsuspected pernicious anæmia.

Clinical Records

PAPILLARY CYST OF THE LABIUM MINUS

By JESSIE M. MACGREGOR, M.D.,
Lecturer on Gynæcology, Edinburgh School of Medicine

ALTHOUGH of little clinical importance, the following case presents some points of interest which render it worthy of record.

The patient was unmarried, 28 years old, and in good general health, except for well-marked neurasthenic symptoms. Her sole reason for consulting a doctor was that she felt a small growth in the genital region, which gave rise to absolutely no local symptoms, but, by reason of the anxiety as to its nature, was causing much general deterioration of health. The growth had been first observed "about" three years before the date of consultation, and had increased very slightly during the interval. The patient could not be certain that it had not been present before she became aware of it. On examination the external genitals were found to be normal, except for the presence of a small cystic growth (measuring ¾ by ½ an inch) in the posterior third of the left labium minus, or more correctly, partly in the interlabial sulcus and partly in the labium itself. It had the usual translucent appearance and bluish tint of a cyst, but felt somewhat hard. It had had no surrounding infiltration, was freely movable and quite painless to touch; the inguinal glands were not enlarged, and there was nothing suggestive of malignancy.

Notwithstanding the apparently simple nature of the cyst it was judged wisest to remove it, in view of the mental distress its presence caused the patient. Eucaine was used as a local anæsthetic, the cyst was excised, and on excision was found to contain some clear serous fluid, and, in addition, a branching papillary growth which incompletely filled its cavity. This growth consisted of many soft, dendritic processes radiating from a narrow pedicle-like base by which it was attached to the cyst wall. On microscopic examination it was found to be made up of fine, branching, fibrous-tissue processes, covered with well-formed epithelium (Fig. 1). The epithelium for the most part consisted of tall columnar cells, but in some parts the cells were cubical in type, and at one point, probably the point of attachment of the pedicle to the cyst wall, there was a distinct transition from columnar to flattened stratified epithelium. There was no evidence of malignancy in the epithelial growth. In some parts there was apparently an irregular proliferation of epithelium, but this was due to compression of the regularly formed cells, not to true overgrowth.

In all its characters the growth resembled an ovarian papillary cystoma.

It seemed so remarkable to find in this situation a structure which in its macroscopic and microscopic appearances closely simulated an ovarian papillary cystoma that a search was made in gynæcological literature for other similar cases. Only two were found. Wert in 1878 (*Centralbl. f. Gynaekol.*) described a cyst which in all particulars closely resembled that mentioned above. It was situated in the interlabial sulcus at the junction of its upper and middle third, and contained a papillary growth which, to judge from Wert's description, was exactly the same

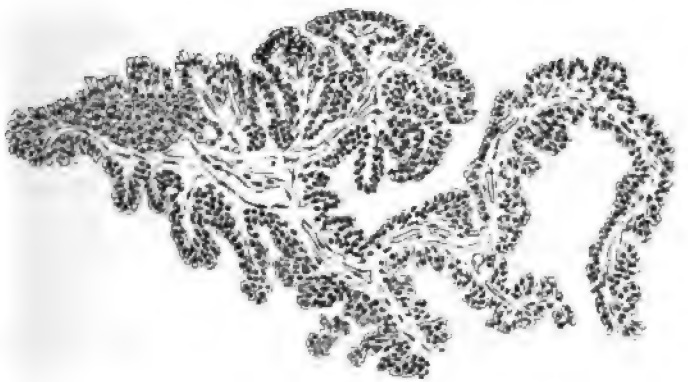

FIG. 1.—Portion of papillary cyst of labium minus.

as that I have described. The fluid contents of the cyst were turbid.

The second case is one briefly mentioned by Gebhardt in his "Path. Anat. der weiblichen Sexualorgane." In his case the cyst was placed superficially in the posterior part of the labium majus. It also contained a papillary growth "which in its histological appearances was identical with the papillary tumours of the ovary."

The interest of these three cases lies in the question of their origin, since a papillary cystoma in this region is an unexpected phenomenon. Three possible sources have been suggested: (1) the lower end of the Wolffian duct; (2) Bartholin's gland; (3) aberrant portions of glands in the interlabial sulcus.

The nature of the cyst and its strong resemblance to an ovarian papillary cystoma strongly suggest the Wolffian duct, which is held to be the origin of these ovarian growths. On the other hand, the lower end of the duct is described as terminating above the hymen, so that the site of the small cyst seems too far removed to be derived from it, unless it is possible that the end

of the duct may in abnormal cases end considerably lower than is supposed.

The gland of Bartholin is also remote from the site of the cyst, nor does there seem any reason why an outlying spur of Bartholin's gland should take on papillary growth. No connection between the cyst and the gland has been traced.

The third possibility, aberrant portions of glands in the sulcus, is supported by the fact that Schauta has seen remnants of tubular glands in this position. Their exact nature and origin are not known, but it seems quite possible that blind, functionless glandular tubes might easily give rise to cysts such as those described above.

Although only three cases of this variety of labial cyst have been placed on record, it is quite possible that the insignificant character of the growth may be responsible for the paucity of information. The three cases are, however, so distinctive in their character, that I think we must add a "non-malignant papillary cystic growth" to our list of neoplasms which may occur in the labia.

CASE OF GREEN-BLUE URINE

By WM. GIBB DUN, M.D.,
Assistant-Physician, Western Infirmary, Glasgow

With a Note on the Pigment by
CARSTAIRS DOUGLAS, M.D., F.R.S.E.,
Anderson's College, Glasgow

OF late several cases have been recorded where urine of a green and blue colour has been passed, the latter proving, on investigation, to be due to methylene-blue taken in some form or other, as in sweets, or, as in the case recorded last year by Professor Stockman [1] in pills, by way of a practical joke. The case which I bring forward is probably the first recorded in which an astute quack made use of this substance in order to secure the confidence of his patient, whom he informed that, "as evidence of the fact that the remedies reach the kidneys and take immediate effect, I would call your attention to the condition of the urine about ten or twelve hours after you have used the sample. It will be of a decided bluish tint." The medicine was administered in the form of capsules, of which a trial sample was sent.

My patient is a lady of sixty-five years, who has long suffered from chronic rheumatoid arthritis, and had tried, with no very great benefit, a great variety of remedies and treatment.

[1] *Edin. Med. Jour.*, 1902, Vol. xii., New Series, p. 115.

Hearing of an American cure, she sent an account of her symptoms, and in return received a long type-written letter (part of which I have quoted above), in which the writer says: "I am justified by my experience in many similar cases in saying this treatment will positively effect a complete and permanent cure in your case. I will quote a very low price on the complete treatment, although several special and very expensive remedies are necessary. As I am anxious to introduce them in your vicinity, I will quote you the special price of £2 for a complete course of treatment." The sample was tried, but the only effect noticed was the colouring of the urine as predicted. A sample of the urine was brought to me, which my friend Dr Carstairs Douglas was good enough to examine, and he decided that the coloration was due to methylene-blue. Unfortunately I was unable to obtain a specimen of the capsules. I am well aware that methylene-blue has been used, and, it is said, with success, in quite a variety of complaints, among others, malaria, specific urethritis, enteric fever, neuralgia, and as a sedative in cases of insanity. It has even been given in the very disease from which my patient suffers. Probably the American doctor knew all this, but his method of practice, while it may perhaps be considered regular in the United States, would, I am sure, be adjudged "infamous in a professional respect" in this country. The ingenuity of taking advantage of the colouring of the urine to gain the confidence of the patient is decidedly smart.

Report on Urine by Dr Carstairs Douglas.

On March 9, 1903, Dr W. G. Dun gave me about 80 c.cm. of a urine to examine. Its colour was a fine, deep, transparent green with a slight blue element as well. The sample had a specific gravity of 1022, was moderately acid, and had an odour of aniseed. It deposited no sediment on standing, contained neither albumin, blood, nor bile, but gave a distinct reaction for sugar. Special attention was directed towards the pigment, which exhibited the following characteristics:—

1. The spectroscope showed a broad dull band in the red, verging on the orange, while the violet end of the spectrum was somewhat shortened.

2. When a portion was allowed to stand in an open test-tube the colour disappeared spontaneously except in the uppermost stratum of the liquid. This took place on the fourth day of standing. The colour was restored when the urine was shaken up with air.

3. The urine decomposed more slowly than usual, remaining

free from any disagreeable odour, at room temperature, for upwards of a week.

4. On extraction with chloroform a distinct light blue pigment separated out, the supernatant fluid remaining a pale yellowish-green.

5. On extraction with amylic alcohol a similar result was obtained.

6. No pigment could be extracted by ethylic ether, petroleum ether, benzene, or absolute alcohol.

7. On heating with small quantities of strong mineral acids (hydrochloric or nitric), the green colour was replaced by a pinkish-brown; when an alkali (soda or potash) was added to neutralise the acid, the green colour reappeared.

8. When an excess of nitric acid was added in the cold, the tint faded quickly, but rapidly reappeared.

9. When strong hydrochloric acid was added in a similar way, the colour was not altered.

10. When acetic acid was added in the cold, no change resulted; on boiling the colour deepened and became more of a blue.

11. Fixed alkalies (caustic soda or caustic potash) decolorised the urine at once in the cold; ammonia only on the application of heat. On neutralisation with an acid (*e.g.* hydrochloric) the colour was restored.

12. Ferric chloride caused a turbidity (precipitation of phosphates, etc.), but left the colour unaltered.

13. Bleaching solution and hydrochloric acid caused a slight diminution of the colour.

14. Fehling's solution was reduced on boiling; this was due however to the glucose the urine contained, as methylene-blue does not reduce alkaline cupric tartrate.

These reactions correspond very closely to those obtained by Professor Stockman in the cases of methylene-blue urine reported by him last year (*vide Edin. Med. Journ.*, Vol. xii., New Series, 1902, p 115), and make it practically certain that in this case small quantities of methylene blue had been added to the patient's medicine. Unfortunately none of the latter could be obtained for analysis.

Meetings of Societies

Edinburgh Medico-Chirurgical Society

THE twelfth meeting of the session was held on the 1st July—Sir Thomas R. Fraser, President, in the chair.

Dr T. S. Clouston, President of the Royal College of Physicians of Edinburgh, read the paper which appears on page 97.

Dr James Finlayson, President of the Faculty of Physicians and Surgeons of Glasgow, said there could be no doubt as to the interest of the subject presented in so attractive and enthusiastic a manner. The charter of the Glasgow Faculty did not admit of a wider construction than was apparent at first sight. Legislation had taken away from the Faculty the power to register physicians, to inspect drugs, and to examine and make inquiry on injured or dead persons. The functions of the Faculty had in short been curtailed rather than extended. A professional authority to which appeal could be made would not be welcomed—it would be resented—if the Board were authoritative, whereas this would not be so were the Board educational. Both the public and the legislature were distrustful of advice given by the profession. Even the General Medical Council was distrusted by the legislature, as was exemplified in the case of the Midwives Bill. Yet even at present, much knowledge was being diffused among the public, and largely so by the press. The main difficulty, however, was that when we came to action the matter became one of policy rather than of education, as, for instance, with compulsory vaccination, notification and isolation of phthisis, and spitting on the streets.

Dr Leslie Mackenzie, of the Local Government Board, said there were difficulties which the medical officers of health had to contend with in public health districts. In his experience, health lectures were stimulating on the public mind, and they, together with steady pressure of the legal authorities, had done much good in educating the public as to the laws of health. Medical inspection of children in schools was very useful and essential, and when education in Scotland was reformed and reorganised such inspection would be introduced.

Dr A. K. Chalmers, Medical Officer of Health for Glasgow, said Dr Clouston was to be congratulated on having brought forward his paper. Having dealt with the statement that medicine lowers mortality but tends to increase the degeneracy of the population, Dr Chalmers proceeded to consider the decrease in the birth-rate, the infantile death-rate, and the artificial feeding of children in their mutual relations. If the proposed inquiry were to throw light only on the decrease of the birth-rate, it would have served a useful purpose.

Dr Carswell said that if Dr Clouston were to read his address to an audience in the slums, there would be no doubt as to the effect it would produce, for the lower classes were intelligent. Still, action is a different thing to speaking. Medical men take

too little interest in public life and public work. Dr Clouston should go on to the Town Council. His scheme requires the help of laymen, but he must not despair of success. Medical officers of health have their work ready to their hands, and knowing what is required of them do not need stimulation by the medical corporations.

Lieutenant-Colonel A. B. M'Hardy, C.B., Prison Commissioner for Scotland, said that the infantile mortality was appalling in the lowest classes, and the causes thereof were not very difficult to determine. The first thing to be done in order to improve the general health was to attend to the quality and quantity of the drink consumed. Alcohol was one of the most important factors in the public health.

Dr Harvey Littlejohn said we were all aware, and all agreed, that there was much to do in educating those who cannot and would not educate themselves. He thought the medical profession could help in this matter. The Corporations should take the initiative in instructing the public on health matters, even though they had somewhat failed to do so in the past.

Dr A. D. Webster said that the general practitioner is the chief source of information and help to the public in health matters. He hoped Dr Clouston's project would be carried out and a definite authority established.

Dr Noël Paton maintained that it was not advisable to have a definite authority to lay down laws on subjects of which we knew little.

The President, summing up the main points of the discussion, said it was almost impossible to create an authority, but what was needed was discussion on the different problems affecting the public health.

Dr Clouston, in replying to the discussion, said we all felt strongly that the medical profession was the source of knowledge regarding health and medicine. We must, of course, educate ourselves. His point was whether, looking to the knowledge we possessed, were we not bound to diffuse some of this so as to improve the public health. The Society had not the power of propagating its views among the people, whereas the Corporations were in a position to constitute an organisation for the diffusion of knowledge. There was immense scope for inquiry, and he was glad to find that the opinion expressed by health experts on his proposition was favourable, and that they regarded his project with sympathy. The carrying out of the scheme would depend largely on the medical officers of health. And lastly, and most important of all, it was to the press we must look for help in the diffusion of knowledge.

Edinburgh Obstetrical Society

THE seventh ordinary meeting of this Society was held in 18 George Street, on 8th July, under the chairmanship of Dr Haig Ferguson, the Vice-President. The following gentlemen were elected honorary fellows of the Society:—Professor O. Morisani, Naples; Dr G. J. Engelmann, Boston; Professor Schauta, Vienna; Dr Paul Segond, Paris.

Professor A. R. Simpson exhibited one of the largest fibroid tumours ever removed by supra-vaginal hysterectomy. It weighed 52 lbs. The patient had consulted Dr Keith so long ago as 1877 on account of its size, but he would not undertake its removal and recommended the use of ergot and bromide of potassium. The patient was now sixty-three years of age and the removal of the growth was not difficult, as the cervix was long and thin and easily cut through. The veins running into the tumour were so large that they were mistaken for coils of intestine. The mental distress occasioned by the size of the tumour was really the chief indication for its removal. The patient has made an excellent recovery. (2) Tubal gestation with uterine cast thrown off the same day as that of the operation. (3) An ovarian and broad ligament cyst—the hydrosalpinx was the largest which Professor Simpson had seen.

Dr F. W. N. Haultain showed: (1) A uterus with multiple fibroids removed after electrical treatment had failed. (2) Uterus with sub-peritoneal cervical fibroid removed by panhysterectomy. (3) Pyosalpinx and ovarian abscess, puerperal in origin. (4) Uterus removed on account of menorrhagia: curetting had not improved the condition. On removal a suspicious looking ulcer was found near the fundus, but the pathologist's report was that of simple endometritis. (5) Ovaries showing follicular ovaritis; a condition which had been mistaken as neuralgia of the ovaries. (6) Portion of ovary left in resection by a gynecologist eighteen months ago. The patient had continued to suffer intense pain and on operation the portion of ovary was found closely adherent to the bowel and was removed.

Dr Brewis showed: (1) A very large fibroid tumour removed from between the layers of the left broad ligament. The patient had consulted Dr Keith twenty years ago, and up till six months ago had not complained of pain. The interior of the tumour was soft and there were numerous calcareous deposits on the surface. (2) A small fibroid which occasioned much pain and hæmorrhage and had not been materially benefited by electricity. (3) An adenoma of the supra-renal gland.

Dr H. M. Church, B.Sc., F.R.C.P.E., read a paper entitled,

"Cases in my private practice which illustrate some of the risks of allowing Lactation and Pregnancy to overlap." He said that some obstetricians denied that any evils resulted from this overlapping, or that if they did, nature soon put matters right. His own experience was not quite in accordance with this view. The subject seemed, however, to have been but little inquired into, and in most of the text-books there was comparative silence regarding pregnancy being a bar to nursing. Dr Church thought that pregnancy should be classed with the other pathological states which contra-indicate lactation. It had to be remembered that three parties were concerned in this overlapping, the mother, the suckling and the embryo, and the number of the chemical, physiological and psychological points involved rendered the importance of the question apparent. In his own practice Dr Church had met with about thirty such cases of overlapping in a thousand cases, or 3 per cent. of cases where lactation and pregnancy had gone on together for any length of time. This number was too small for purely scientific puposes, and he maintained that in Sick Children's Hospitals and Lying-in Institutions sufficient inquiry was not made regarding this overlapping. In large cities, however, there was evidence to show that overlapping was very much more frequent than he had himself experienced. He thought that this overlapping was a canker at the root of our national vitality. Were more inquiry made it would probably be found: (1) that the suckling was or became a delicate child, that he at one or other stage of his development suffered from some affection of the nervous system, and that he was often the mentally weak one of the family; (2) that during lactation the embryo was prematurely expelled from the uterus, or if it reached full time, that, in many cases, though not in all, did so with lowered vitality and handicapped in some way or other for the race of life; and (3) that the mother's health was generally undermined for a longer or shorter time. Seldom would it appear that she had blood and strength enough for the welfare of the trio. In support of these points, Dr Church gave some details of ten such cases of overlapping from his private practice. Case I. Four months overlapping; death of the suckling from meningitis between the third and fourth year of life; other nine children healthy; no evils to the mother. Case II. Two months overlapping; slow development of the suckling; first tooth at fifteen months; commenced walking at two years; St Vitus dance at ten years, now nervous sensitive child; meningitis and death in the child of the pregnancy at the age of four and a half years. Case III. Four months overlapping; at age of eight years took scarlatina and was subsequently an imbecile from per-

manent cerebral injury. Case IV. Three months overlapping; miscarriage of fœtus due to starvation of uterus and fœtus from the breasts monopolising the blood supply. Suckling well. Case V. Mother aborted while nursing a child, though at the same time she took scarlatina for a second time. The suckling has always been delicate and took scarlatina from his mother. In this case there was disaster to mother, suckling and embryo. Case VI. Mother in poor health, aborted during the third month. The suckling has had all the infantile diseases more severely than her other children. He is now a lad of eighteen years and has scarcely a single tooth in his jaws. Case VII. The mother was in bad health. The suckling refused the breasts during the gestation. The fœtus became a delicate child. Dr Church alluded to the effect of emotion on the milk, and stated that, during the occurrence of overlapping, emotions were much more ready to alter the constitution of the milk. Case VIII. The suckling died of diabetes mellitus at the age of sixteen; the teeth began to appear at the fourteenth month, but were always poor, brittle and irregular, and had all nearly disappeared at the time of his death. Apart from all constitutional taints in the parents, it was evident to Dr Church that the lowering of the mother's health, which this pathological overlapping must occasion, was the explanation of many cases of rickets, dwarfed stature and bad teeth so often seen in city dwellers. It had to be remembered that the primitive dental groove was formed about the sixth week of intrauterine life or just at the time when the healthy development of the embryo was handicapped by the drain upon the mother's health and strength in the performance of a double function. Enquiry on the influence of diet on the mother and her offspring during the period of gestation seemed very practically within the region of dietetic science. There could be but little doubt that many evils both to mother and child might be averted by a scientifically assorted diet, and at the same time a better dentition secured. Case IX. Mother and child of pregnancy well; suckling Mongolian in type. Case X. Suckling always delicate; mother at climacteric developed scirrhus of breast. It was not improbable that this invasion of cancer might be traced to the undue stimulation both of breasts and uterus by the double strain at the beginning of her child-bearing period. Dr Church referred to the deleterious changes in the mother's milk during pregnancy and menstruation, and showed tables of analysis on the subject.

The possible dangers to mother, suckling and embryo might be to a great extent averted by a little tact on the part of the family doctor in getting early information regarding the

recurrence of pregnancy. Even before the mother was aware of her condition, symptoms in her health, as well as disorders in the suckling, might determine the doctor to advise the weaning of the child, or at least to be watchful of the case as one of pregnancy. With the advent of pregnancy these cases related above indicated that the child should be immediately weaned.

Dr Ballantyne said that so long ago as 1877 Jacobi of New York had, in a paper which contained a good deal of theory with a minimum of fact, affirmed that lactation and pregnancy were incompatible. Dr Ballantyne thought that this condition of overlapping resembled what was found in twin pregnancies—one twin being often much smaller than the other. The question of dietetics in pregnancy was one of great importance, but it was not very easy to lay down rules, as one had always to consider the personal factor in each case. Overfeeding of the mother did not always produce a large infant. The investigation of the effect of different diets on pregnant animals would prove a most interesting physiological study. A curious law existed in France 150 years ago that every wet nurse who became pregnant was compelled to notify her condition.

Dr M'Vail of Chirnside referred to the fact that agricultural mares gave birth to healthy foals, and yet it was customary to find four months of overlapping in these animals. Such mares gave birth to the best types of horses and such as had frequently won the Derby and other races. The same was found in cows. A cow would go on giving milk until two weeks before labour.

Drs A. D. Webster and Haig Ferguson having made some remarks, Dr Church replied.

Dr Richard J. A. Berry, F.R.C.S.E., read a paper on the "Anatomical Variations presented by two cases of Twin Monsters, with an account of their developmental explanation." He explained the anatomical variations which had been found in two cases of twin monsters. Both cases were females, and in the first case the twins were united along the lateral abdominal walls; the variations present were, a single liver, duodenum, jejunum and pancreas common to both twins, and absence of the gall-bladder. In the second case the fusion was more complete, and involved the thorax as well as the abdomen. The abdominal variations were almost identical with those of the first case, but the heart and great vessels presented some very remarkable abnormalities. Dr Berry endeavoured to explain all the variations in both cases on the hypothesis of two primitive grooves in a single ovum without bilateral segmentation, and referred to Miss Duncan's paper in the *Aberdeen Journal of Anatomy and Physiology* as affording substantive proof of the truth of the hypothesis. He concluded by stating

that in his opinion these cases proved the liver to be a mid-gut development, and that bilateral segmentation of a single ovum was unnecessary for twin development.

The paper was discussed by Drs Ballantyne, Haultain, and Scott Carmichael.

Forfarshire Medical Association

THE Forty-fifth Annual Meeting of the Association was held in the White Hart Hotel, Arbroath, on Thursday, July 2nd, 1903. Dr Laing, Arbroath, President, in the chair.

A report by the Secretary showing a membership of 110, an increase of five over that of last year, was read and approved. The Treasurer gave in his annual statement of the income and expenditure of the Association for the year, which was approved.

After discussion it was agreed to hold the next annual meeting in the Brechin district. It was agreed to have the list of members since the formation of the Association which the Secretary had drawn up, printed and circulated amongst the present members.

Dr Havelock, Montrose, moved, and Dr R. C. Buist, Dundee, seconded, the election of the following office-bearers for the ensuing year:—President, Dr John Anderson, Brechin; Vice-Presidents, Dr Macalister, Forfar, and Dr Graham Campbell, Dundee; New Members of Council, Dr J. S. Y. Rogers and Professor Stalker, Dundee; Local Secretaries, General Secretary, and Treasurer as before.

At five P.M. the members sat down to dinner under the Presidency of Dr Laing, on whose right were Dr Gibson, Edinburgh; Dr J. A. Dewar, Arbroath; Dr Key, Montrose; and on his left were Mr Stiles, Edinburgh; Dr Sinclair, Dundee; Dr M'Bride, Edinburgh; and Dr Keith Anderson, Arbroath.

The croupiers were Dr Butter, Downfield, supported by Professor Musgrove, St Andrews, and Professor Stalker, Dundee; and Dr Graham Campbell, Dundee, supported by Dr Douglas, Cupar, and Dr Rorie, Liff.

Others present were—Drs R. C. Buist, A. J. Duncan, A. Don, W. E. Foggie, Johnston, Halley, Low, Rogers, Traill, Thornton, J. M. Whyte, Tulloch, and Professor Kynoch, Dundee; Gilruth, W. Dewar, and Yule, Arbroath; Neave, Friockheim; Havelock, Montrose; Adam, Brechin; Peterkin and Macalister, Forfar; J. Orr, Tayport; J. Constable, Leuchars; Brownlee and MacEwan, Dundee.

Apologies were intimated by the Secretary from Drs G. Owen Mackness and Wemyss, Broughty Ferry; J. Urquhart, Montrose; A. R. Urquhart, Perth; T. F. Dewar, Arbroath; C.

Moon, Dundee; Professors Murdoch Cameron, Glasgow, and MacIntosh, St Andrews; and Dr Curror, Kirkcaldy (President of the Fifeshire Medical Association).

The loyal toasts were duly honoured.

The "Imperial Forces" was proposed by Dr Butter, and responded to by Brigade Surgeon Lieut.-Colonel J. K. Anderson, Arbroath, and Major Laing.

Dr Sinclair proposed "The Guests," to which Dr M'Bride replied.

Dr Gibson proposed long life and prosperity to the Forfarshire Medical Association, and referred to the great advantage of such an Association, and deprecated the absorption of such Associations into the larger one. Dr J. A. Dewar replied.

Professor Musgrove proposed "The Infirmaries and Asylums of Forfarshire," to which Dr Rorie replied.

Mr Stiles proposed "The President," referring to their student days together. Dr Laing replied.

Several songs were sung and stories told throughout the evening, which was brought to a close with "Auld Lang Syne."

Prior to the Dinner several golfing members engaged members of the local club in friendly combat on the Elliot Links, with the result that they won but three matches. Other members visited the ancient village of Auchmithie and the neighbouring cliffs.

Editorial Notes and News

Industrial Poisoning.

THE Home Office is anxious to have fuller information of the distribution of lead, phosphorus, arsenic and mercury poisoning, and of anthrax in Scotland, and we have been requested to draw attention to the fact that "Under the Factory and Workshop Act, 1901, every medical practitioner attending on or called in to visit a patient whom he believes to be suffering from

Lead poisoning,
Phosphorus poisoning,
Arsenic poisoning,
Mercury poisoning, or
Anthrax,

} contracted in any factory or workshop,

is required by Section 73 of the Factory and Workshop Act 1901, under penalty, to notify the case forthwith to the Home Office, unless it has already been so notified; and he is entitled to a fee of 2s. 6d. for so doing.

"The notice should state clearly:—

The name, address, and occupation of the patient;

The disease from which he or she is suffering;

The factory or worship at which he or she has been employed and is believed to have contracted the disease;

The name and address of the notifying practitioner;

The date of notification.

"The notice should be addressed to the Chief Inspector of Factories, Home Office, London, S.W., and no postage need be paid.

"Forms for notification will be supplied on application, but their use is optional."

A Government Vaccine Establishment for Scotland.

IN spite of Lord Balfour's warm reception of the deputation, the movement in favour of the Government supply of lymph continues to grow. Some of Lord Balfour's remarks were fair objections, but he did not grasp one of the deputation's points, namely, the fact that while 56 per cent. of the children born in England are vaccinated with Government lymph at the Government expense, only 2 per cent. of the Scottish children are so vaccinated. It is true that the Scottish system has worked well, but it is poor statesmanship to legislate only when things are so bad that something must be done. Vaccination is a matter of the public health, and it seems to us eminently reasonable that the State should take the responsibility of providing and guaranteeing the lymph supply.

The General Medical Council and the English Colleges.

THE special meeting to consider the revolt of the English colleges is over and done. At one time it looked as if the Council was on the verge of a big fight with the colleges, for we can hardly suppose that they would have taken the declaration of the insufficiency of their examinations "lying down." Finally it was decided to inform the colleges of what had occurred, and to call their serious attention to the state of matters.

Dr Norman Moore, the representative of the Royal College of Physicians, said that while that College had the greatest respect for, and paid the utmost deference to, the Medical Council as a criticising body, that the Medical Council had no power whatever to interfere with the regulations of the examination. This is the crux of the situation, and as Dr Norman Moore's statement is apparently correct, it is evident that nothing short of an amended medical act, giving more power to the General Medical Council, will really settle matters. The action of the English colleges has undoubtedly brought the "one portal" system more within the range of practical politics.

Dr Clouston's Proposals.

DR CLOUSTON'S addresses are always interesting, always eloquent, and sometimes rather Utopian. It would no doubt be an admirable thing if the Corporations would combine as he suggests, if they would formulate useful practicable schemes, and if Town Councils and the Government were to take up and pay for them. But unfortunately there are too many "ifs" concerned, and we really think that the most practicable contribution to the discussion was that of one of the speakers from Glasgow, who declared that if Dr Clouston was really in earnest, the best means of furthering his scheme was to go into the Town Council and do it there. Dr Carsewell advised him to stand for a working-class ward, and perhaps the advice is good; but if Dr Clouston will stand for St Luke's, and surely a medical man could stand for no more fitting ward, we will guarantee him a body of medical electors who will go on his Committee, and do everything in their power to promote his return.

We feel sure that Dr Clouston would do more inside the Town Council in a year than he would in ten, even if he got his Committee and the Committee appointed him its Convener.

The Royal Infirmary and the Age-Limit.

THE Managers have laid this question on the shelf in the meantime. Investigation showed that it was a much larger question than it at first seemed, too large to be dealt with in the summary manner suggested by the Committee. The discussion has, however, done some good. It has demonstrated that the real difficulty is the existence on the Staff of certain members who hold office for life, and it has demonstrated the necessity of some expedient being devised in order to get around this difficulty. Such an expedient has been suggested by the Staff, and it seems likely that it or some similar one will be adopted after, we hope, full, cordial, and candid discussion between representatives of the Managers and of the Honorary Staff. There is little sense in two bodies of men, both giving gratuitous service to the public, and both interested in the prosperity of the Royal Infirmary, discussing the matter at arm's length.

It is rather remarkable that while a proposal is under discussion, which would have the effect of reducing the fifteen year term of office of the ordinary staff of the Infirmary, the Directors of the Royal Hospital for Sick Children have just adopted the regulation which has the effect of increasing the period of office of their staff from ten to fifteen years.

The Home Secretary and Vivisection.

WE referred in a recent *Journal* to Lord Balfour's plain speaking to the Anti-Vaccinists. His excellent example has been followed by the Home Secretary in his dealing with the Anti-Vivisectionists. Replying to a deputation, urging the abolition of vivisection, he declared that the statements that licensed physicians were indifferent to the sufferings of animals, or that any of them enjoyed the spectacle of such sufferings, was a gross and grotesque libel upon a humane, high-minded, and self-sacrificing profession.

School of Medicine of the Royal Colleges, Edinburgh.

AT a meeting of the Governing Board of The School of Medicine of The Royal Colleges, Edinburgh, the secretary, Mr N. Ramsay, reported that the number of students attending the School during the Winter Session, 1902-03 was 1244, and during the Summer Session 1903 the number was 1080.

Edinburgh University Graduation Ceremonial

THE annual graduation ceremony at the close of the summer session of Edinburgh University took place in the M'Ewan Hall on Saturday forenoon, 25th July.

The following were subsequently presented in turn to the Vice-Chancellor and capped, Professors Simpson, Geikie and Grant introducing them :—

DOCTOR OF MEDICINE.

*** Awarded Gold Medals for their Theses.
** Highly Commended for their Theses.
* Commended for their Theses.

**Arthur Leonard Anderson, M.B., C.M., New Zealand, 1898. The Röntgen rays in intra-thoracic disease.

Francis Thomas Auden, M.B., C.M., England, 1891. The diagnosis between yaws and syphilis. (In absentia.)

**William John Barclay (B.A.), New Zealand, M.B., Ch.B. (with first-class honours), 1899. A study of the vital statistics of New Zealand, with a life table for the five years, 1891-96.

*James Brunton Blaikie, M.B., C.M., Scotland, 1896. The intestinal dyspepsia of children.

James Blyth, M.B., C.M., Scotland, 1893. Infantile convulsions.

Douglas John Mayhew Bone, M.B., C.M., England, 1887. The etiology and the pathology of the Chorea of Sydenham.

Robert Tennant Bruce, M.B., C.M., Scotland, 1894. Associated movements in hemiplegia.

***Archibald Fawns Cameron (M.A.), M.B., C.M., Scotland, 1896. The factors on which diagnosis in smallpox is based.

Bertram Joseph Courtney, M.B., Ch.B., England, 1899. The diarrhœal diseases of infancy; their causes, symptoms, and treatment, etc.

*Leonard Crossley, M.B., Ch.B., England, 1900. Erysipelas, with notes on eighty cases.

**John M'Ewen Dalziel, M.B., C.M., Scotland, 1895. Frambœsia in South China, with description of cases.

*Horatius Bonar Dodds, M.B., Ch.B., Scotland, 1900. Blackwater fever.

*Owen John Evans, M.B., Ch.B., Wales, 1901. Clinical observations on enlargement of the spleen, and their diagnostic significance and pathology.

*Hugh Faulkner, M.B., Ch.B., Ireland, 1899. The microscopic changes in the blood during pregnancy and the puerperium, with special reference to leucocytosis.

*Robert Mylcraine Freer, M.B., C.M., England, 1894. The value of vaccination, at and after infection with smallpox, with some reference to the duration of protection afforded by vaccination.

Arthur William Fuller, M.B., Ch.B., England, 1900. An investigation of the urine of children—its normal amount and the contained urea and purins.

*James John Galbraith, M.B., Ch.B., Scotland (with second-class honours), 1899. The pathology and etiology of pulmonary tuberculosis in relation to the natural method of limitation of the disease, and the various methods of inducing artificial limitation.

Andrew Gilmour, M.B., Ch.B., Scotland, 1898. Some South African diseases.

Thomas Parker Greenwood, B.Sc., M.B., C.M., England, 1897. Morbid bodily conditions in the insane—some remarks, comparisons and cases.

*Alfred Hume Griffith, M.B., Ch.B., England, 1899. Dysentery, with special reference to the disease as studied in Persia.

Francis Alexander Hardy, M.B., C.M., England, 1896. An inquiry into the etiology, pathology, and clinical features of thoracic aneurysms.

*Herbert Harris, M.B., Ch.B., England, 1900. Some common morbid conditions of the infantile alimentary system, with special reference to summer diarrhœa.

*John Henderson, M.B., C.M., Ireland, 1897. The treatment

of pulmonary tuberculosis by intra-venous injections of hetol, and subcutaneous injections of cinnamate of sodium.

**Thomson Henderson, M.B., Ch.B., Scotland, 1900. A study of the changes following upon extraction of cataract, with a histological report of thirty cases.

Albert Lewis Husband, M.B., C.M., England (with second-class honours), 1895. Agoraphobia, and some allied conditions.

William Roy Jackson, M.A., M.B., C.M., Scotland, 1893. Some considerations on the disease rheumatism.

*William Ernest Jennings, M.B., C.M., India, 1887. The value of measures for the prevention of the spread of plague by railway traffic in India.

William James Bennett Jones, M.B., Ch.B., Wales, 1889. Carneous mole—its nature and pathology.

Francis Ferguson Kerr, M.B., C.M., Canada, 1898. The treatment of nineteen cases of an epidemic of diphtheria of two months.

**Leslie Kingsford, M.B., C.M. (with second-class honours), New Zealand, 1897. Tuberculosis in childhood.

John Dickinson Leigh, M.B., C.M., England, 1886. Gall-stones: their etiology, physical characters, pathology, symptoms and treatment.

Patrick Alexander Leighton, M.B., Ch.B., Scotland, 1898. Diphtheria, a study, illustrated by cases.

George Herbert Lewis, M.B., Ch.B., Wales, 1900. The open-air treatment of chronic pulmonary tuberculosis.

Thomas Hillhouse Livingstone, M.B., Ch.B., England, 1899. A study of gastric ulcer.

***George Lyon, M.B., Ch.B., Scotland (with first-class honours), 1889. Inflammatory changes in the kidney: an experimental study of the action of some toxines and poisons upon the kidney, and also upon the spleen.

*Duncan Matheson Mackay, M.B., C.M., England, 1895. The light-sense in strabismus, especially in the amblyopia of strabismus, examined by means of a new photometer.

*John William MacKenzie, M.B., Ch.B., Scotland, 1898. The use of paraldehyde as a pulmonary sedative.

*Arthur Hutton M'Shine, M.B., C.M., Trinidad, 1901. The morbid anatomy of glaucoma, and its relations to the theories of causation.

*Arthur Anderson Martin, M.B., Ch.B., New Zealand (with second-class honours), 1900. Medical and surgical experiences while a civil surgeon, South African Field Force, late Boer War. (In absentia.)

Frederick Crichton Matthew (M.A.), M.B., Ch.B., Scotland, 1900. Chronic hyperplastic tuberculosis of the intestine, commonly causing stenosis.

*William Walker Maxwell, M.B., Ch.B., England, 1898. A series of eighteen successive cases of post-scarlatinal diphtheria.

*Frederick Norton Menzies, M.B., Ch.B., Wales, 1899. "Flushed breast": a form of mastitis occurring very early in the puerperium.

Philip Ernest Millard, M.B., Ch.B., England, 1898. Appendicitis.

***James Miller (B.Sc.), M.B., Ch.B., Scotland (with second-class honours), 1899. The histogenesis of the tubercle, or the primary action of the tubercle bacillus on the tissues.

James Ramsay Munro, M.B., Ch.B., England, 1899. Emergency abdominal surgery in a provincial hospital.

John Nightingale, M.B., C.M., England, 1888. A study of infantile mortality in England and Wales: its causes and prevention.

Alexander Spalding Mackay Peebles, M.B., Ch.B., Scotland, 1899. Epilepsy: etiology and treatment from the point of view of a toxæmia.

*Howard George Pesel, M.B., Ch.B., England, 1901. Some observations on the blood in phthisis pulmonalis.

Reginald Ogilvy Petrie (M.A.), M.B., C.M., Scotland, 1892. Primary carcinoma of the body of the uterus.

Ernest Edward Porritt, M.B., C.M., New Zealand, 1896. Twelve cases of practical interest, with comments. (In absentia.)

Sydney Clifford Pritchard, M.B., Ch.B., England, 1899. Henoch's purpura.

Alexander Mair Rattray, M.B., C.M., Scotland, 1897. General paralysis of the insane, with special reference to its etiology. symptomatology, and morbid anatomy.

*Matthew Burrow Ray, M.B., C.M., England, 1893. Some remarks on the therapeutic value of anti-streptococcic serum.

**James Martin Reid, M.B., Ch.B., Scotland, 1899. Simple basal meningitis in children.

Hugh Richardson, M.B., C.M., Scotland, 1895. Some fevers met with in South Africa: their treatment and diagnosis, from clinical observation during the Boer War, 1899-1902.

Griffith Lloyd Roberts, M.B., C.M., Wales, 1895. The etiology and treatment of exophthalmic goitre.

John Alexander Robertson, M.B., C.M., Scotland, 1890. Cape Colony as a health resort for those suffering from pulmonary phthisis, with special reference to the "graded altitude system." (In absentia.)

Lauchlan Rose (M.A.), M.B., C.M., Scotland, 1894. The etiology and treatment of ulcer of the stomach, with special reference to the causal relation of anæmia.

*Laura Stewart Sandeman, M.B., Ch.B., Scotland, 1900. Six cases of osteomalacia.

Kenneth MacKenzie Scott, M.B., C.M., England, 1887. The radical cure of entropion and trichiasis.

Thomas Redpath Scott Sibbald, M.B., C.M., Scotland, 1894. Mucous colitis.

**Frederick David Simpson, M.B., Ch.B., Scotland, 1900. Pelvitomy through the pubic bone by Gigli's method, as an operation in obstetrics.

*George Smith Small, M.B., C.M., Scotland, 1896. Toxæmia of pregnancy; etiology and pathology, with observations on three cases of eclampsia.

Henry Langlands Spark, M.B., Ch.B., Scotland, 1901. Pulmonary tuberculosis in pauper patients, with suggestions for their cure and treatment.

*Walter Henry Swaffield, M.B., C.M., England, 1901. The induction of premature labour, with especial relation to past and present Continental views of the questions involved.

*Harry Moss Traquair, M.B., C.M. (with first-class honours), Scotland, 1901. The microscopic examination of the secretion in conjunctivitis.

*Edward James Tyrrell, M.B., Ch.B., Scotland, 1901. Dissertation and research on the bactericidal action of some compounds of silver.

Ernest Edwin Waters, M.B., C.M., England, 1893. An inquiry into the prevalence and causation of malaria, dysentery, and tuberculosis, as seen in the Andaman penal settlements. (In absentia.)

*John William Wells, M.B., C.M., England, 1887. Cod liver oil and cod liver oil emulsions.

Arthur Edward White, M.B., C.M., England, 1896. Pneumonia, pleurisy, empyema—cases, suggestions and reflections.

*Richard Henry Auglin Whitelocke, M.B., C.M. (with second-class honours), Jamaica, 1884. The injuries incidental to athletic exercises considered as to their causation, pathology, and rational treatment.

Lewis Arthur Williams, M.B., C.M., England, 1895. Notes on the pathological effects of alcohol.

Hector Douglas Wilson, M.B., Ch.B., Australia, 1899. Cases of carcinoma and epithelioma in childhood and youth, with notes.

BACHELOR OF MEDICINE AND MASTER IN SURGERY.

Margaret Ida Balfour, Scotland; William Herbert Winstanley, England.

BACHELOR OF MEDICINE AND BACHELOR OF SURGERY.

* Passed examinations with first-class honours.
** Passed examinations with second-class honours.

Daniel Allison, Scotland; **John Allan Anderson, Scotland; Frank Lockwood Atkinson, M.A., England; Charles Mackie Begg, New Zealand; William Frederick Brayne, B.A., England; Edith Cochrane Brown, Scotland; George Llewellyn Brunton, Scotland; George Macqueen Brunton, Scotland; Angus Buchanan, Scotland; Samuel Burns, M.A., Scotland; Henry Caird, Scotland; Thomas Pearson Caverhill, Scotland; Katherine Jane Stark Clark, Scotland; Elizabeth Lucy Colby, B.A., England; Charles Hawkins Craig, Scotland; Robert William Craig, Scotland; Crawford Smith Crichton, Scotland; David M'Kenzie Crooks, Jamaica; David Halliday Croom, B.A., Scotland; Henry Curwen, Scotland; John May Darling, M.A., Scotland; *Hugh Stevenson Davidson, Scotland; James Davidson, Scotland; William Henderson Davidson, Ireland; Douglas Erith Derry, England; Arthur Cecil Devereux, England; John Robson Dubbin, Ireland; James Donaldson, M.A., Scotland; Clement Edgar Dumanoire, Trinidad; Alice Mary Ebden, England; Gilbert John Farie, Scotland; Hugh Nethersole Fletcher, England; John Fortune, Scotland; *Cameron Robertson Gibson, M.A., Scotland; John Dudgeon Giles, Scotland; **James Girdwood, M.A., Scotland; John Morley Glasse, Scotland; Wilbert Goodchild, England; Reginald Glegg Gordon, Scotland; Alexander Gray, M.A., LL.B., Scotland; John Alexander Gray, M.A., Scotland; Elizabeth Catherine Gunn, New Zealand; Annie Mabel Gurney, England; Howard Walter Gush, England; *Andrew Alexander Hall, M.A., Scotland; Frances Margaret Harper, Scotland; Garnet Wilson Harty, New Zealand; George Henderson, M.A., Scotland; Ronald Lennox Henderson, Australia; Albert Ernest Hodgson, England; Richard Brassey Hole, Scotland; Alfred Oswald Hooper, England; Arthur Hutley, England; Isaac Ivey, India; Bertha Jex-Blake, England; John M'Pherson Johnston, Scotland; **Robert William Johnston, M.A., Scotland; John Hunter Kay, Scotland; James William Keay, Scotland; Ivan Cochrane Keir, England; *James Mathieson, Kirkness, Scotland; *Lewis Albert Hodgkinson Lack, Trinidad; Walter Scott Laidlaw, Scotland; Frederick Thomas Churchill Linton, M.A., Scotland; Alexander Lundie, B.Sc., Scotland; Francis William Lundie, Cape Colony; Henry MacCormac, Ireland; John Robertson M'Gregor, Cape Colony; Gordon Stuart Mackay, Scotland; Marion Ellen Mackenzie,

Scotland; Clara Violet M'Laren, Scotland; William MacLaren, Scotland; John James M'Millan, Scotland; John Bennett M'Neill, Scotland; Ian Macpherson Macrae, Scotland; Richard Manwaring Manwaring-White, England; Henry Cooke Martin, Ireland; Alfred Sutton Millard, B.Sc., England; **George Herbert Stephen Milln, Scotland; Charles Robert Paterson Mitchell, Scotland; Anthony Maurice Moll, Orange River Colony; *William Cuthbert Morton, M.A., Trinidad; Ernest Muir, Scotland; Charles Harold Muller, Cape Colony; **Hugh Lennox Munro, Scotland; **David M'Kenzie, Newton, Scotland; William Harwood Nutt, England; Claude O'Flaherty, Ireland; David Edward Stanford Park, England; **David Duncan Paton, M.A., Scotland; **Thomas Peebles, Scotland; John Alexander Pottinger, Scotland; Julia Letitia Pringle, Scotland; Walter Llewellyn Pritchard, England; Arthur Meurig Pryce, Wales; William Readman, England; Eva Anne Robertson, Scotland; William Sibbald Robertson, Scotland; Amy Robinson, England; Leslie Charles Robinson, Ireland; James Alexander Ross, M.A., Scotland; Mabel Ross, Scotland; Johannes Andreas Roux, B.A., Cape Colony; Norman Cecil Rutherford, England; William Sanderson, Scotland; **David Jobson Scott, Scotland; Duncan Gordon Addison Scott, Scotland; John Easton Scott, M.A., England; Maurice Sinclair, India; George William Robert Skene, England; *Grahame Howie Skinner, Scotland; John Henderson Smith, B.A., Scotland; Sydney Watson Smith, Scotland; **Eva Maud Snowball, England; Henry Speirs, Scotland; Francis Henry Stirling, Scotland; Amelia Sutcliffe, England; *John Tait, B.Sc., Scotland; James Ewen Taylor, Scotland; Johannes Petrus du Toit, Cape Colony; Louis Turiansky, Scotland; Robert Veitch, Scotland; William Richard Spencer Watkins, Wales; George Jacobus Wentzel, Cape Colony; David Herman Wessels, South Africa; Leonard West, England; George Wight, Scotland; William Young, Woodburn, Australia; William Dundas Wright, England; Gerald William Young, England.

Certificates in Diseases of Tropical Climates.

Daniel Allison, M.B., Ch.B.; Alex. Kidd Baxter, M.B., Ch.B. (in absentia); Nina Henrietta Beath, M.B., Ch.B.; Edith Cochrane Brown, M.B., Ch.B.; Angus Buchanan, M.B., Ch.B.: Henry Caird, M.B., Ch.B.; Katharine Jane S ark Clark, M.B., Ch.B.; Crawford Smith Crichton, M.B., Ch.B.; David M'Kenzie Crooks, M.B., Ch.B.; James Davidson, M.B., Ch.B.; Frank Inglis

Dawson, M.B., Ch.B.; William Elliot Carnegie Dickson, B.Sc., M.B., Ch.B.; Horatius Bonar Dodds, M.D., Ch.B.; Alexander Leonard Duke, M.B., C.M.; Clement Edgar Dumanoire, M.B., Ch.B.; John Fortune, M.B., Ch.B.; Agnes Josephine Gardner, M.B., Ch.B.; Reginald Glegg Gordon, M.B., Ch.B.; Philip Gray-Marshall, L.R.C.P. and S. (in absentia); Frances Margaret Harper, M.B., Ch.B.; Alexander William Montgomery Harvey, M.B., Ch.B.; John Macpherson Johnston, M.B., Ch.B; James Mathieson Kirkness, M.B., Ch.B.; Alexander Lundie, B.Sc., M.B., Ch.B.; William MacLaren, M.B., Ch.B.; John Alexander Pottinger, M.B., Ch.B.; Eva Anne Robertson, M.B., Ch.B.; Amy Robinson, M.B., Ch.B.; Mabel Ross., M.B., Ch.B.; William Sanderson, M.B., Ch.B.; Grahame Howie Skinner, M.B., Ch.B.; Eva Maud Snowball, M.B., Ch.B.: Henry Speirs, M.B., Ch.B.; Albert Lucas Steyn, M.B., Ch.B.; Arthur Clarence Turner, L.R.C.P. and S. (in absentia); Robert Veitch, M.B., Ch.B.

Thesis Gold Medallists.

Archibald Fawns Cameron, M.D.; George Lyon, M.D.; James Miller, M.D.

Prizes and Scholarships.

The Goodsir Memorial Fellowship.—Orlando Charnock Bradley, M.B., Ch.B.

The Gunning Victoria Jubilee Prize in Physiology.—Andrew Hunter, M.A., B.Sc., M.B., Ch.B.

The Ettles Scholarship.—Lewis Albert Hodgkinson Lack, M.B., Ch.B.

The Allan Fellowship in Clinical Medicine and Clinical Surgery.—Andrew Alexander Hall, M.A., M.B., Ch.B.

The Freeland Barbour Fellowship.—James Mathieson Kirkness, M.B., Ch.B.

The Buchanan Scholarship in Gynecology.—James Mathieson Kirkness, M.B., Ch.B.

The James Scott Scholarship in Midwifery.—Cameron Robertson Gibson, M.A., M.B., Ch.B.

The Mouat Scholarship in Practice of Physic.—Robert Veitch, M.B., Ch.B.

The Charles Murchison Memorial Scholarship in Clinical Medicine.—Charles John Shaw, M.B., Ch.B.

The M'Cosh Graduate's and Medical Bursaries.—John Tait, B.Sc., M.B., Ch.B.

The Beaney Prize in Anatomy and Surgery.—Andrew Alexander Hall, M.A., M.B., Ch.B.

The Pattison Prize in Clinical Surgery.—Legh Richmond Herbert Peter Marshall.

The Dorothy Gilfillan Memorial Prize.—Eva Maud Snowball, M.B., Ch.B.

The Dobbie Smith Prize in Botany.—Alexander Ninian Bruce.

Recent Literature

CRITICAL SUMMARIES AND ABSTRACTS

MEDICINE

FEVERS

By CLAUDE B. KER, M.D.,
Medical Superintendent, Edinburgh City Hospital

Treatment of Typhoid Fever with Acetozone.—The last year has seen yet another drug added to the long list of remedies for use in typhoid fever. The antiseptic treatment of typhoid has not been much in evidence lately, the results given by this method of treatment not having been up to expectation. But the introduction of an especially powerful antiseptic acetozone, or more strictly benzoyl acetyl peroxide, has given a new impetus to the very natural desire to disinfect the typhoid intestine. Acetozone is said to be more than thirty times as powerful a germicide as corrosive sublimate in a 1-1000 solution. Moreover, it is claimed, it is perfectly safe to use. One of the first to report its merits in typhoid was Wasdin (*American Medicine*, February 8th, 1902), who prescribes it in 5 gr. powders, and has had good results, especially as regards intestinal symptoms. F. G. Harris (*Therapeutic Gazette*, March 15th, 1903) has taken advantage of an epidemic of typhoid to subject the drug to a thorough test. He administers it in aqueous solution, 12 or 15 grains to the quart, and allows his patients to drink it *ad libitum*. The only other liquid allowed is milk, which forms almost the entire food of his patients. In addition to the variable amount thus taken by the patients, four to six ounce doses are given every four hours as medicine, occasional small doses of magnesium sulphate or sodium phosphate being given to move the bowels and carry the acetozone as far as possible down the intestinal canal. Complications are treated as they arise in the usual manner. Harris gives a very careful and elaborate account of the 128 cases treated, and there is no doubt that they were at least of average severity, and were of such a character

as to afford a very fair test for the drug. The death-rate, which includes several cases which were practically hopeless on admission, was 8·59 per cent. The other cases treated in hospital during the same period, nearly 500 in number, had a death-rate of 13·1 per cent. The acetozone cases which recovered had an average duration of twenty-nine days from the time of onset. The average stay in hospital was thirty-one days, which all will agree is a remarkably short time. For purposes of comparison I may be pardoned for giving figures from the Edinburgh City Hospital statistics of eight years ago, when an extensive trial of antiseptics was made. The average duration of the patients' detention in hospital was forty-four days. On the other hand, the duration of the fever in all cases was rather less than the figure given by Harris, twenty-seven days only, and it was found that cases treated without antiseptics ran a course as short as those in which antiseptics were employed. Harris, unfortunately, does not give the duration of the fever or the length of detention in hospital of the cases not treated with acetozone, but is content to say that in his experience six weeks is the usual time. He noticed the usual features of a successful antiseptic treatment; that is to say the odour of the stools was diminished and the wards were therefore less offensive. The delirium and stupor were much less, tympanites was less frequent, and diarrhœa was checked. There was also a marked improvement in the temperature. Each patient received in all on an average 138·12 grains of the drug. Those who were given it early and often showed the best results.

These results are corroborated by Abt and Lackner (*Therapeutic Gazette*, October 15th, 1902). These observers treated 40 cases of typhoid fever in children with acetozone with only two deaths. In these cases the average duration of the fever was just over twenty-three days, a very average duration considering the patients were children. They prefer the aqueous solution to the powder and flavour it with orange extract. It may be added that relapses are noted in both series of statistics; this antiseptic, like others, having apparently no power to prevent their occurrence.

The Treatment of Scarlet Fever with Antistreptococcus Serum.—Fischer (*Medical Record*, March 7, 1903) has a most interesting paper on this subject. He begins by pointing out that the use of Marmorek's serum, when used by Baginsky in 1896, was disappointing, and that therefore this method of treatment was abandoned. Baginsky, however, still believed, after a study of 701 cases of scarlet fever, in 696 of which the streptococcus was demonstrated, that this micro-organism is a

distinct etiological factor in scarlet fever. Aronson set himself to produce a powerful serum and utilised a streptococcus taken from a child with a scarlatinal angina, and also another strain from the bone marrow of a fatal case. The serum of horses injected with these cultures was tested on mice and found to be efficient. It may be noted that mice immunised with Marmorek's serum, and then injected with the streptococcus succumbed. Aronson found that as long as streptococci were to be found in the blood of the animal it was advantageous to inject serum. If the animal received the immunising injection first, the streptococci, when injected, were found to remain at the seat of injection, and did not invade the general circulation. The serum also produces a typical agglutination with the streptococcus.

Baginsky treated a series of 58 cases with 3 deaths, a mortality of 4·2 per cent. The cases taken for comparison by him, sixty-three in number, had a percentage death-rate of 17·3, surely a very high figure when it is remembered that the hospital death-rate in Great Britain averages about 5 per cent. only. On the other hand, the difference is sufficiently striking, always presuming that the cases were treated during the same epidemic and otherwise under the same conditions.

After this resumé of Baginsky's work on the subject, Fischer gives an account of two cases of scarlet fever treated by himself. The first was a sharp case presenting necrotic patches on the tonsils and enlargement of glands. An injection of 20 c.c. of Aronson's serum was administered and the temperature fell by lysis in a few days, the patches in the throat clearing up very fast. A second and more severe case with similar throat conditions and a pulse of 158 was injected on the third day of the illness, and the improvement was also very marked. No bad results were noticed in either case.

This question of the use of antistreptococcus serum in scarlet fever raises one or two interesting points which are worthy of consideration. In the first place, are we to accept the streptococcus as the causative agent in scarlet fever? It has long been suspected of being so, Klein having claimed it as the specific organism of the fever years ago. Before we admit that it is in reality the main etiological factor, we must remember first that the diplococcus described by the American observer Class has practically as much to be said in its favour. Secondly, there is absolutely no doubt that the vast majority of scarlet fever cases suffer from septic throats in a greater or less degree, and it is not unlikely the streptococcus may be a superadded infection. That it is so in many cases where a patient develops the anginosa or septic form of the fever, after having started as a case of a

simple type, there is no question at all. It is just these septic cases which form probably over 90 per cent of the fatal cases of the fever and it is quite natural that the streptococcus should be found disseminated through their organs. The toxic or malignant cases of scarlet fever, on the other hand, live such a short time that many do not reach the hospital and the post-mortem room at all. Now these latter cases do not as a rule present septic symptoms in the throat. The throat of a "maligna" is quite often trivial, milder indeed than many simple cases. But surely it is from a study of these purely toxic cases where the infection is so virulent as to sometimes kill in a few hours that we are most likely to get reliable bacteriological results. It has been proved that 40 per cent. of scarlatinal throats contain non-virulent or pseudo-diphtheritic organisms, and it is quite probable that the streptococcus may be merely on a par with these germs which no one has yet claimed to be the cause of scarlet fever. In the meantime, till this bacteriological question is definitely settled it seems premature to give serum treatment to scarlatinal patients, unless indeed it is one's object to combat the sepsis rather than the scarlatina. Certainly Marmorek's and other serums, prepared no doubt in the same manner, have given very dubious results. I have treated about thirty cases of scarlatina anginosa with these serums, and have only seen a really marked improvement in one case. As regards Aronson's new serum I have no experience, but Fischer's two cases were not in my opinion severe enough to give it a fair trial, and in the meantime our scarlatinal death-rate in this country is so low that it is very doubtful if it would be much affected by its use. On the whole it seems safer to wait for further statistics.

Typhoid Pericarditis.—Gandy and Gouraud (*Gazette des Hopitaux*, 28 mars 1903) report an interesting case of this rare complication of typhoid fever. The patient, a woman of thirty, was admitted to the Hôtel Dieu on the eighth day of an averagely severe attack. She was not in the "typhoid state" and was not markedly prostrated. The temperature exceeded 104° F. and the pulse was only 90 and somewhat bounding in character. On examination of the heart pericardial friction was heard. There were no other cardiac abnormalities and no other symptoms of pericarditis. The area of dulness was not increased. There was no rheumatic history. Diagnosis was made of a dry pericarditis. The treatment consisted in cold baths and wet cupping over the præcordial region. Of the diagnosis of typhoid fever there was no doubt at all, a positive Widal being obtained and the clinical symptoms being also beyond question. The patient at first did admirably and the temperature had practically reached the

normal line by the twenty-fifth day of the illness, when she died suddenly. A post-mortem could not be obtained, but 90 cubic centimetres of sero-fibrinous fluid was drawn off from the pericardium after death. Attempts to cultivate the bacillus typhosus from this fluid failed.

This case seems to accord very well with the literature on the subject of which the French observers give an admirable summary. Gandy and Gouraud conclude that: (1) Pericarditis is a very rare complication of typhoid fever; (2) it assumes two anatomical forms, the first and most common fibrinous and characterised by pseudo-membranous exudation and serous effusion in insignificant quantity; the second fibrino-purulent, much rarer, with occasionally very marked effusion; (3) pericarditis sometimes occurs alone and sometimes associated with other complications, the most frequent of which are endocarditis, myocarditis and broncho-pneumonic conditions; (4) its development is usually insidious, and it is often quite latent, the only means of recognising it being by auscultation; (5) as regards its etiology, while the purulent form possibly depends on secondary infection, the fibrinous variety is probably due to the bacillus of Eberth; (6) purulent cases are always fatal. Dry fibrinous cases, on the other hand, for the most part recover.

Etiology of Epidemic Dysentery.—Vaillard and Dopter (*Presse Médicale*, 16 mai 1903) have utilised an epidemic of dysentery which occurred at Vincennes to make investigations into the bacteriology of this disease as it occurs in temperate climates. Chantemesse, some time ago, foresaw that dysentery would be ultimately classified into two types arising from different causes: firstly, amœboid dysentery, almost exclusively found in tropical regions and due to the action of pathogenic protozoa; and secondly, baccillary dysentery, common in temperate climates and due to the action of a specific bacterium. The bacillus described by Shiga in 1898 is said to be the same as that discovered by Chantemesse and Widal in 1888, and its presence in dysenteric stools has been since demonstrated by observers in most countries. The fact that the bacillus is so constantly present in the stools and that it agglutinates in the serum of dysenteric patients is presumptive evidence that it is in reality the causative agent. The only experimental proof, however, is that of Strong, who made a condemned Filipino swallow a culture of this germ and succeeded in giving him dysentery.

Vaillard and Dopter studied an epidemic of 130 cases with two deaths. A bacillus identical with that of Shiga, Strong, etc., was found to be abundant in the stools. It was usually

mixed with other micro-organisms, the bacillus coli among them. It was easiest to find in the early days of the illness and in severe cases. It was difficult to detect it when the stools began to lose their slimy character. It is a short and slender rod, with rounded extremities, not motile and not flagellated. It can be stained readily, but is not stained by Gram's method. It does not ferment sugar nor coagulate milk, nor does it produce indol. It resembles to some extent then the bacillus of typhoid, but not being motile it is readily distinguished. It was found that every culture isolated was not only agglutinated by the blood of the patient from whom it was taken, but also by the blood of others affected in the epidemic, and who were suffering from dysentery in various parts of France. Agglutination was obtained in dilutions varying from 1 in 20 to 1 in 300. Normal blood and the serum of patients suffering from other diseases gave no reaction with the bacillus. Specimens of bacilli from different countries, isolated by Shiga, Kruse, Flexner and others, were also agglutinated by the serum. On the other hand, the serum of patients suffering from chronic tropical dysentery gave no reaction with any of these bacilli.

The constant presence, then, of the same bacillus in epidemic dysentery and its agglutination by the serum of dysenteric patients afford a strong presumption that it is the specific cause. The French observers point out that Strong's experiment is weakened by the fact that it was carried out in surroundings where dysentery was prevalent. Still it is of some value. Experiments on animals had so far given little or no result. The bacillus was found pathogenic to some animals but did not produce in them a disease similar to that which occurs in man. Vaillard and Dopter have succeeded, however, in giving the disease to rabbits, pigs and dogs. Feeding them with cultures had little or no effect. But subcutaneous injection was most successful, and it was remarkable how the microbe apparently chose the intestine and produced definite lesions in it. The lesions are identical with those which occur in man. Animals may be also killed by injections of dead bacilli, which points to the lesions which also occurred in these cases being due to toxins. All these experimental results were obtained by use indifferently of the various races of bacilli from different sources. Altogether the research has done much to confirm the specific character of Shiga's bacillus.

SURGERY

GENERAL ANÆSTHETICS

By D. C. A. M'ALLUM, M.B.,
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THERE is evidently an increasing demand for an anæsthetic suitable for short operations which would enable the surgeon to avoid the disadvantages attendant on chloroform or ether. The advantage to both operator and patient of such an anæsthetic, by the use of which the possibility of a fatal result may be practically disregarded, is self-evident.

Such an anæsthetic must fulfil at least three distinct conditions: (1) it must be safe; (2) anæsthesia must be complete, *i.e.* feeling and muscular rigidity must be abolished; (3) recovery must be speedy and easy.

Of late three anæsthetics have been brought forward as meeting this demand, viz., chloride of ethyl, somnoform and narcotile.

Ethyl Chloride.—A considerable amount of literature has been published upon this drug as a general anæsthetic. The article contributed by M'Cardie of Birmingham (*Lancet*, 4th April 1903) may be taken as a satisfactory statement by an anæsthetist of large experience and unbiased judgment. The author enters fully into the physiological action, the course of narcosis, the best method of administration, and the after effects of the drug, and a number of illustrative cases are appended. According to Seitz the death-rate is 1 in 16,000, ethyl chloride being therefore the safest anæsthetic next to nitrous oxide.

Its great safety is owing to its extreme volatility, whereby it is rapidly absorbed into, and as rapidly eliminated from, the circulation. The cardio-vascular system is stimulated, unless the drug be used without admixture with air, when the blood pressure falls rapidly and regularly, causing stoppage of the respiration and heart. As the respiration is effected first there is time for resuscitative treatment. Respiration is markedly stimulated both in frequency and depth during deep anæsthesia.

The course of the narcosis both in children and adults is good; patients pass, as a rule, quickly and quietly into anæsthesia, and any trouble during induction generally occurs in neurotic and alcoholic cases and in strong muscular subjects.

In such cases there may be considerable excitement, with struggling and cyanosis, which, according to the author, are almost always due to too great an admixture with air, and were much more common with the original form of mask (Breuer's); indeed, in certain cases anæsthesia could not be induced at all.

On the other hand, if too little air be allowed the same difficulties may come on owing to simple asphyxia.

The method of administration advocated is to use a full-sized Ormsby inhaler—preferably Hewitt's modification—and to spray the ethyl chloride on to gauze or fine sponge fitted into the face-piece. The inhaler is applied closely to the face, the supplemental bag, which is blown up beforehand, containing sufficient air to avoid asphyxial complications, but not so much as to prevent anæsthesia. The usual dose is 3-5 c.c. for children and 5-8 c.c. for adults, sprayed on in one dose.

The onset of anæsthesia may be extremely rapid—20 secs.—and is largely dependent on free respiration. Even alcoholics may be deeply narcotised in a short time.

The stage of anæsthesia is generally marked by a dilated and insensitive pupil and muscular flaccidity. The colour remains good, and the breathing is full and free.

As with other anæsthetics, these signs may vary—the pupil may remain contracted, muscular rigidity may continue, and a certain degree of corneal reflex may persist. The duration of anæsthesia, after removing the mask, varies naturally with different subjects. The shortest time tabulated was 3 secs. and the longest 2½ mins. after a single dose. The duration, apart from idiosyncrasy, depends on the amount sprayed into the mask and the quality of the respiration.

For dental work ethyl chloride compares favourably with nitrous oxide, or nitrous oxide and oxygen; the average anæsthesia is longer, jactitation and cyanosis are absent, and the trouble of carrying about heavy gas cylinders is avoided.

The after effects are chiefly headache and vomiting. Both of these are much less than after chloroform or ether, but distinctly greater than after nitrous oxide.

For long operations the anæsthesia is prolonged on much the same lines as with ether—two or three c.c. are sprayed into the mask, which is applied at frequent intervals as may be necessary. The pupil often contracts as anæsthesia is continued.

The longest case detailed was that of a woman aged 26 years, operated on for tuberculous disease of the foot, and the duration of anæsthesia was 25 minutes.

There are practically no contra-indications; the only condition mentioned is that where marked narrowing about the larynx exists, chloroform is preferable as being less stimulating.

In conclusion, the author does not advocate the drug in operations likely to last longer than 15 minutes. For obvious reasons the analgesic state following the use of chloroform or ether is highly desirable after big operations. The following articles may be consulted:—

Burnet, J., *Med. Press and Circ.*, Lond. 1902, n.s., lxxiv. 624.
Cumston, C. G., *Boston M. and S. J.*, 1903, cxlviii. 12-16.
Girard, H., *Rev. de chir.*, Paris, 1902, xxvi. 507, 832.
Weill, G. A., *Union med. du nord-est*, Reims, 1902, xxvi. 287.
Berlioz, *Rev. gén. de clin. et de thérap.*, Paris, 1903, xvii. 131-33.

Somnoform.—This anæsthetic has been chiefly advocated in this country by Drs Rolland and Robinson of Bordeaux, who, in a paper contributed in May 1902 to the British Dental Congress at Shrewsbury, claimed the following advantages:—(1) portability; (2) complete safety during and after anæsthesia; (3) that anæsthesia is rapidly produced and is complete; (4) that return to consciousness is speedy and satisfactory; (5) that after effects are slight.

It is a mixture of three substances in the proportion of chloride of ethyl 60 parts, chloride of methyl 35 parts, and bromide of ethyl 5 parts, the function of the last apparently being to lengthen the anæsthesia after removal of the mask.

Rolland uses a special form of inhaler, and the method of administration and dose are much the same as that described above for ethyl chloride.

The general physiological action and the course and signs of anæsthesia are practically those of ethyl chloride, thus fairly substantiating M'Cardie's claim (*loc. cit.*) that the anæsthesia is really and entirely due to the latter drug.

Rolland stated that he had used somnoform not only in minor, but also in major operations, *e.g.* removal of the kidney, with satisfactory results.

Kirkpatrick of Dublin (*Med. Press*, 22nd April 1903) gives his experiences in 207 dental cases, varying in age from 3 to 61 years, the majority being females. He found the Ormsby inhaler superior to Rolland's mask, the exclusion of air in the latter giving rise to various difficulties.

His average duration of anæsthesia was 65 secs. and the average dose 4·5 c.c., the shortest anæsthesia being 30 secs. and the longest 2 mins. after one dose.

On the whole, he bears out the claims of Rolland and Robinson, and more especially in the case of children.

At a meeting of the Society of Anæsthetists, held on 3rd April 1903 (*Lancet*, 25th April 1903), a very full discussion took place, following a paper read by Foster Cross.

A number of leading anæsthetists gave their experience with the anæsthetic, and the general verdict appeared to be that while on the whole the advantages claimed by Rolland and Robinson were borne out, there were very distinct disadvantages. Vomiting and severe headache coming

on some hours after administration were not uncommon; collapse had occurred in some cases after long administration; and the unpleasant smell of the drug was a special drawback —this last being due to great instability, leading to the liberation of free bromine.

Another article is that of A. L. Kowler (*Deutsche zahnärztl. Ztg.*, Munich, 1902-3, Nos. 29, 30).

Narcotile.—The present writer has been able to find only one article on this anæsthetic, viz., that by Eastham (*Lancet*, 18th April 1903). It is stated by the author to be a definite ether produced by the action of hydrochloric acid on mixed ethyllic and methyllic alcohols distilled together. It is not decomposable by light, the odour is agreeable, and the vapour, like that of ether, is inflammable.

It is administered by a special apparatus (Lobjois inhaler) with a hand bellows like the familiar "Junker." The general physiological action resembles that of ether, and shock or collapse have never occurred during or after administration. Anæsthesia is rapidly produced and as rapidly passes off. The pupil dilates at first and then contracts (often markedly), and corneal reflexes are abolished—these signs, with muscular relaxation, indicate the point of anæsthesia.

Signs of overdose are a redilatation of the pupil, separation of the eyelids and shallow respiration. After effects are vomiting and headache, but they are rare.

Illustrative cases show that anæsthesia can be kept up by means of a a mouth tube for several minutes after removal of the inhaler—a very distinct advantage—and further, that even after prolonged administration the severe headache does not occur which is not uncommon after somnoform.

Fright and Deaths in Chloroform Narcosis.— Bodine (*Internat. Clin.*, vol. iv., 1903) discusses this subject and states his definite opinion that deaths in the primary stage of chloroform anæsthesia are due to fright and nothing else.

He adduces in support of his views the fact that in such cases, as a rule, very little of the drug has been inhaled—sometimes less than one drachm—and that the post-mortem appearances are those of death from vasomotor paralysis, which itself is caused by profound nervous emotion, not by any idiosyncrasy to the small amount of chloroform inhaled. These post-mortem appearances are a dilatation of the large corporeal veins, and a consequent marked passive venous engorgement, meaning that, in short, the patient has bled to death rapidly into his own tissues.

While some of the author's statements and views may appear far-fetched, there is no question of the interest of the two cases detailed. Both patients were markedly neurotic and intensely apprehensive as to the anæsthetic.

In one case the cone was placed over the face and the patient told to breathe deeply. He seems to have believed that the anæsthetic was actually being administered, gave a few gasps, then ceased to breathe and died straight away. He died from pure fright before receiving one single drop of chloroform.

In the other case, after the patient was on the table an enema was given to cleanse the rectum for an operation for hæmorrhoids, and before the chloroform was begun. The patient thought this was the beginning of the operation, and in the middle of the procedure stopped breathing and died. In neither case was any resuscitative treatment of the slightest use.

The post-mortem appearances in both cases were similar, viz., perfectly healthy bodily organs, and a marked vasomotor paralysis and consequent venous congestion specially marked in the abdominal veins.

The author points out that had even a whiff of chloroform been administered in either case it would undoubtedly have been set down as a death due to idiosyncratic action of chloroform.

Other articles of interest in the domain of anæsthetics are :—

Hewitt—"Two Lectures on the Anæsthetisation of Bad and Difficult Subjects" (*Lancet*, Jan. 10th and 17th, 1903); "The Field of View of the Anæsthetist," a leading article in the *B. M. J.* of 31st Jan. 1903.

Pechell—"The Influence of Ether Administration on Nitrogenous Metabolism" (*B. M. J.*, 20th June 1903), a matter closely parallel to chloroform poisoning.

Blatchford—"Emphysema due to Injury of the Upper Air Tracts by Vomiting and Protracted Hysteric Eructations following Ether Anæsthesia" (*Am. Med.*, 1903, v. 417).

Bryan—"Pulmonary Anæsthesia" (*N. York Med. J.*, 1903, lxxviii. 315-17).

A discussion at the Society of Anæsthetists (6th Feb. 1903) on the Relation of Anæsthetics to Shock is of interest on account of the various—often contrary—opinions advanced on this important subject.

DISEASES OF CHILDREN

SPLENIC ANÆMIA

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SEVERAL interesting articles on splenic anæmia have recently appeared in the French press, in which the writers, MM. Emile-Weil and Clerc, attempt to correlate the infantile form (v. Jaksch, or pseudo-leukæmic anæmia) with that occurring in the adult. It is impossible, without giving a resumé of all their papers, to state their views clearly; and if apology be needed for quoting a paper on a disease of adults in a column devoted to pædiatrics, it is afforded by the desirability of correlating, where it is possible, the diseases of infancy and those of later life. In a paper on **Chronic Splenomegaly with Anæmia and Myelæmia** (*Arch. Gén. de Méd.*, Nov. 1902) based on two personal observations on adults, Weil and Clerc give reasons for isolating certain cases of that ill-defined disorder, splenic anæmia, under the above name. After a description of the clinical features, based on their own and ten similar cases found in the literature [not all of these, however, were published as cases of splenic anæmia], they give the blood changes in detail. These are: (1) Diminution of red corpuscles—in one case to 245,000, with the alterations in shape commonly accompanying anæmia, and sometimes polychromasia. (2) Abundance of nucleated red cells, not necessarily, however (a point on which stress is laid), corresponding in number with the degree of the anæmia. Normoblasts as a rule preponderate, but megaloblasts may be as numerous as in pernicious anæmia. (3) The leucocytes are generally increased, though not to a large extent; there is relative lymphocytosis, with diminution of polynuclears, and abnormal forms are always found. Neutrophile myelocytes are invariably present in a proportion of from 1·5 to 27 per cent.; basophile and eosinophile myelocytes are occasionally found. For the details of the pathological changes the original must be consulted; they may be summed up as hyperplasia of the lymphocytic elements of the spleen, myeloid transformation of the pulp of the organ, and proliferation of the myelogenous elements of the marrow. The relations of the disease to others are then dealt with. (1) *Pernicious Anæmia.* Though the changes in the erythrocytes in the two conditions agree in many respects, there is in pernicious anæmia only lymphocytosis, not myelocytosis [the last statement is surely incorrect; a low percentage of myelocytes occurs in most cases of pernicious anæmia], and the spleen is not enlarged. (2) *Leukæmia.* The resemblance to this

disease, especially as regards the pathological appearances, which are almost identical in the two conditions, has struck all writers. Normoblasts and megaloblasts are, however, much more numerous in splenomegaly, while the leucocytosis, though similar in some characters, is less in degree and does not show excess of eosinophiles or mast-cells. On the other hand, cases of splenomedullary leukæmia without much leucocytosis have been described, as also that without excess of eosinophiles and mast-cells [*e.g.* a case reported by Simon, *American Jour. Med. Sc.*, June 1903, in which there was practically total absence of eosinophile leucocytes]. (3) *Splenic Anæmia.* It is probable that several diseases have been grouped under this heading, among them the special class of cases under consideration. The writers think that it is possible to isolate at least four distinct conditions under this title: Banti's disease, or splenomegaly followed by hepatic cirrhosis; splenomegaly with anæmia and lymphocytosis, possibly related to Hodgkin's disease and lymphatic leukæmia; splenomegaly without alteration in the leucocytes; and splenomegaly with anæmia and myeloid reaction of the blood. (4) *Generalised Malignant Disease.* In rare cases this is associated, in some inexplicable manner, with enlargement of the spleen and a blood change similar to that described above. In the *diagnosis* of the condition, leukæmia, splenic anæmia in its wider sense, Hodgkin's disease, syphilis, tubercle, malaria cysts, waxy degeneration and endothelioma of the spleen have to be considered. The pathology, of course, is unknown; the writers think that the myeloid change in the blood does not necessarily involve a primary lesion in the marrow, but that the essential feature of the disease may be the myeloid transformation of the spleen.

In a second paper with a title similar to that of the preceding (*Rev. Mens. des Maladies de l'Enfance*, Jan. 1903), Weil and Clerc deal with the infantile form of splenic anæmia, or v. Jaksch anæmia, to name it after its discoverer. In spite of the difficulties which recent observations on the blood of children have raised against attempts to classify the anæmias of infancy according to the blood changes, the writers think that the views of v. Jaksch and Luzet [*i.e.* that splenic anæmia of infancy is a distinct morbid condition, and not a secondary anæmia] are receiving fresh confirmation, and that in a large group of cases the splenomegaly of infants is accompanied by a myeloid reaction of the blood analogous to that described in the preceding paper on adult splenomegaly, the two thus constituting an affection which clinically and anatomically has points of resemblance to leucocythæmia.

Details of two cases of infantile splenic anæmia are given;

into these it is unnecessary to enter here, since they present no new features. The blood showed diminution of red corpuscles with many nucleated forms; moderate leucocytosis with slight increase of lymphocytes and a considerable percentage of myelocytes (from 5 to 17 per cent. in one case, and 3 per cent. in the other). A careful microscopic examination of the organs of one patient was made, and the main changes were as follows:—*Liver.*—Structure and hepatic cells normal; slight subcapsular leucocytic infiltration, and, in the portal spaces, aggregations of leucocytes having nucleated reds among them. *Spleen.*—Slight thickening of the vessel walls, trabeculæ abnormally distinct, Malpighean bodies hypertrophied. The pulp had undergone myeloid transformation, better seen on films than in sections, its cells consisting mainly of granular and non-granular mononuclears, polynuclears being scanty. *Marrow.*—The majority of the cells were granular mononuclears, a number of large lymphocytes being also present. No polynuclear neutrophiles seen. *Glands.*—Here, too, the pulp had undergone myeloid changes. *Thymus.*—The cellular part of the organ consisted of about an equal proportion of lymphocytes and myelocytes, other cells being scanty.

Comparing these cases with others in the literature, Weil and Clerc have nothing to add as regards the clinical features to the description given by v. Jaksch and Luzet. The lesions in the blood are as follows:—(1) Decreased erythrocytes, showing the usual changes (poikilocytosis and polychromatophilia). Nucleated forms numerous, including megaloblasts and mitotic figures; they are not, however, proportionate to the decrease in the erythrocytes. (2) Hæmoglobin deficient; colour index low or normal. (3) Leucocytosis slight, disproportionate to degree of anæmia, which has, however, as constant features, (*a*) diminution of polynuclear neutrophiles; (*b*) normal percentage of eosinophiles; (*c*) relative lymphocytosis, many of the lymphocytes being large forms; (*d*) myelocytes up to 10 or 12 per cent., those with neutrophile granules predominating. The pathological anatomy has been little studied; the writers found a myeloid metaplasia of the pulp of the spleen, glands and thymus, myeloid nodules in the liver, and proliferation of the neutrophile elements of the marrow. They were unable to confirm Luzet's observation of the recurrence of the fœtal hæmopoietic cells in the liver. As to the etiology, cases fall into three categories: those in which the disease exists alone, those in which it is combined with rickets, and those in which it is combined with syphilis. Its relation to rickets is probably a mere coincidence; but in some cases it may be a "para-syphilitic" malady.

As to the position of this disease, and its relation to others,

the writers point out that, apart from it, myelæmia is exceptional in childhood. It must not be thought that all cases of infantile splenic anæmia have this character; in a few there is anæmia with lymphocytosis, and in a few anæmia without alteration in the leucocytes. Pernicious anæmia is very rare in infants; there is no splenomegaly, and it would appear as though the blood change consists mainly in extreme diminution and alteration of the form of the red corpuscles, without the appearance of many nucleated forms. As to the relation of the disease to leukæmia, the authors think that some of the reported cases (*e.g.* those of Morse and Fowler) are transitional between the two conditions. With the adult form of splenomegaly and myelæmia, this infantile type seems almost identical, the only differences being the greater number of nucleated reds in children, and the fact that the prognosis is somewhat better.

Corresponding with a second of the series of groups into which they divide adult splenic anæmias, Weil and Clerc describe, under the title of **Splenomegaly with Anæmia and Lymphocythæmia** (*Bull. de la Soc. de Pédiatrie de Paris*, Dec. 1802), a variety of infantile splenic anæmia with lymphocytosis instead of myelæmia. Of this they report two cases briefly as follows:—(1) Infant, aged six months, anæmia, with enormous spleen; no rickets or syphilis. Red corpuscles, 3,000,000; leucocytes, 8,264, with 73 per cent. lymphocytes, 25·5 per cent. polynuclears, and 1·5 per cent. eosinophiles; no myelocytes or nucleated reds. (2) Infant, aged two years, anæmic, spleen enlarged, no rickets or syphilis. Red corpuscles, 2,870,000; hæmoglobin, 54; leucocytes, 7250, with 67 per cent. lymphocytes, 33 per cent. polynuclears, isolated myelocytes and nucleated reds. Clinically, therefore, these cases were splenic anæmia, but the blood differed from that described above in the absence of myelocytes and nucleated red cells. The writers have not found any exactly similar cases reported, and, while cautious in drawing conclusions from two cases unsupported by post-mortem evidence, think that they are justified in separating these cases provisionally under a separate name.

The general conclusions derived from these papers is that, in the opinion of the writers, splenic anæmia is not one, but several distinct pathological conditions, and that two of these occur both in children and in adults. In the former they have been variously described as pseudo-leukæmic anæmia, v. Jaksch anæmia, splenic anæmia of infants, etc. Their signs are: (1) splenomegaly, with or without hepatic enlargement, without ascites or lymphatic enlargement; (2) diminution in red corpuscles, with moderate or absent leucocytosis, and either (*a*) abundance of erythroblasts and the presence of neutrophile

myelocytes, or (*b*) lymphocytosis; (3) in the case of (*a*) the pathological change consists in a myeloid hyperplasia of all the hæmopoietic organs.

Morse (*Boston Med. and Surg. Jour.*, May 28, 1903) has a paper on **The Relation of Chronic Enlargement of the Spleen to Anæmia in Infancy**, in which the view that in such cases we have only to do with secondary anæmia is strongly urged. He concludes that when anæmia, splenic tumour, and enlargement of the glands and liver are found in association, they are in no way dependent on each other, but are all manifestations of disturbed nutrition; that there is nothing characteristic about the blood changes; that the anæmia is secondary; that there is no justification for placing such cases in a class by themselves; and that such names as splenic anæmia of infancy, etc., should be disused altogether. A table of twenty-two cases is given, with a resumé of the clinical course of each. By an analysis of these Morse finds: (1) That while in in general those with the largest spleens had the largest livers, sometimes the spleen reached the iliac crest with a liver of normal dimensions. He therefore infers that these two conditions are independent. (2) The lymph glands are always enlarged, but to a degree in no way correlated with that of the liver and spleen. (3) The hæmoglobin is always low, but there is no relation between its amount, the colour index, or the number of red corpuscles, and the size of liver or spleen. (4) The largest leucocytoses are usually associated with the largest spleens, but the latter are unaccompanied by leucocytosis, and sometimes there is marked leucocytosis with slight splenic enlargement. (5) There is no relation between leucocytosis and enlargement of the liver. (6) The same holds good as to the leucocytes and the size of the glands. (7) The numbers of red and white corpuscles have no constant relation to one another. (8) In a very general way the morphological changes vary with the number of red corpuscles, the more marked changes occurring with the smallest number of red cells. There are many exceptions, however, to this rule. The changes are most marked where there is leucocytosis. There is no correspondence between the morphological changes and the size of the spleen; they form part of the pathological change in the blood, and are not connected with those in the spleen. Nucleated red cells occur without diminution in the red corpuscles; in several cases which recovered large nucleated reds were very abundant. Very marked changes do not necessarily point to a fatal outcome, as several cases in which they were most marked recovered. *Etiology.*—Rickets was present in all but two cases, but as the blood changes and splenic enlargement were great in slight cases of rickets, and

vice versâ, and since rickets is present in 80 per cent. of children attending Morse's clinic, while the other disease is rare, the former cannot be the cause of the latter. Gastro-intestinal disturbance was always present, and probably owes its etiological significance to the malnutrition it produces. Syphilis was present in two cases only. *Prognosis.*—This depends more on the state of the blood than on the size of the spleen. Recovery may take place when the anæmia is most severe. The largest spleen may return to normal within a few months. Seven of the twenty-two cases died; in all the blood change was marked. Nucleated reds and megaloblasts are of less prognostic importance in infancy than in later life.

PATHOLOGY

A CASE OF PRIMARY CANCER OF THE LIVER, ARISING FROM THE INTRA-HEPATIC BILE DUCTS

By STUART MACDONALD, M.B., M.R.C.P.,
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SCHEEL, in the *Nord. med. Arkiv.* 1902, Afd. ii. ("Inre Medicin"), Häft 2, Nr. 11, gives a very carefully detailed account of the above condition.

The patient was a man of 81; he was admitted to the Communal Hospital, Copenhagen, suffering from extreme debility. He was said to have been on the whole healthy till five weeks previous to admission. The prominent symptoms were persistent vomiting and slight jaundice. The liver was found to be enlarged and in the epigastric region hard and nodular. He gradually became comatose and died two days after admission.

At the post-mortem, the liver was found greatly enlarged, especially the left lobe. The surface of the right lobe was slightly granular; but this was much more marked over the left lobe, where in addition to granulations varying in size from a millet seed to a pea, there were larger, irregular, knob-like projections the size of cherries. Between the reddish granules the surface of the liver was yellowish-white and tendinous-looking. The liver was densely hard, being of almost cartilaginous consistence. On section, especially in the right lobe were numerous soft reddish grey nodules up to the size of cherries. There was some thrombosis in a large branch of the portal vein. The larger bile ducts showed nothing abnormal. The gall-bladder contained a gall-stone, but showed nothing else worthy of note. There was no trace of secondary growth anywhere in the body. None of the other organs called for special mention.

The chief interest of course lay in the microscopical examination. Sections showed that the whole liver was markedly cirrhotic. The new connective tissue was cellular and extensively infiltrated with round cells. The nodules were either masses of new growth or consisted of the remains of several lobules mapped off by fibrous tissue. The development of the cirrhosis was proportionate to that of the tumour, only slight overgrowth of connective tissue being seen where there was no tumour growth. The liver tissue, where not actually invaded by the tumour, showed little abnormality beyond slight fatty infiltration. There was no nodular hyperplasia of the liver cells. Throughout the new connective tissue in the liver were numerous cell columns and alveoli filled with cells. Many of the cell columns exactly resembled newly-formed bile ducts. The cells were cubical or low columnar in type. Everywhere there was a sharp demarcation of the liver cells from the tumour cells, and no transition forms were seen. The development of the tumours apparently took place in the following manner. At the margin of the lobules the bile duct-like formations extended actually into the capillaries between the rows of liver cells growing towards the centre of the lobules. As these rows extended in, there was a corresponding atrophy of the cells on either side and their place was ultimately taken by dense connective tissue. Through the right lobe many of the cell columns showed club-like extremities or showed cyst-like dilatations containing bile pigment. In addition, through the new connective tissue were numerous alveoli filled with cancer cells variously shaped. These alveoli were lined by columnar cells and flattened endothelium. Some of them contained blood. In addition, at places there was observed an actual invasion of the wall of some blood-vessels by the tumour cells which at parts actually projected into the lumen, the cells still retaining their tubular type. In the neighbourhood of the thrombosed portal vein, some of the alveoli contained many giant and smaller variously shaped cells more like a sarcoma. In the larger branches of the bile ducts throughout the liver there was evidence of simple proliferation of the lining epithelium, and here and there were papillary projections into the lumen. In analysing the case Scheel points out the strong probability of the origin of the cancer in the bile ducts. In another case of primary cancer of the liver he was able to demonstrate numerous transition forms between the liver cells and the cancer cells, but nothing of that kind was present here. The shape of the cancer cells at many places he considers strongly suggestive of the bile ducts as the source, and the strong resemblance of the early stages in the tumour formation to newly-formed bile ducts was very striking. Again, there was

evidence of proliferation of the lining of the bile ducts but none of the liver cells themselves. One point of difficulty lies in the presence of what looked like bile pigment in the dilated columns of the tumour cells. As, however, there seems no doubt that genetically liver cells can be derived from bile duct epithelium, there seems no reason to doubt the possibility of an occasional advance in type of the lining cell with assumption of some of the properties of the liver cell. The infection of the vessels explained the widespread distribution of the disease through the organ. The occurrence of giant cells has not previously been noted in primary intra-hepatic bile duct cancer. Lastly, with reference to the connection between the cirrhosis and the malignant disease. Though from a study of other cases of primary cancer of the liver it seems probable that a cirrhosis in some way predisposes to malignant disease, cases of cancer do occur without cirrhosis and cases occur where a cirrhosis definitely follows a secondary cancer. In this case too, the coincident fibrous formation proportionate to the tumour growth suggests at least that the cirrhosis is entirely secondary.

New Books and New Editions

Biographic Clinics. The Origin of the Ill-health of De Quincey, Carlyle, Darwin, Huxley and Browning. By GEORGE M. GOULD, M.D. Pp. 223. London: Rebman Ltd. 1903. Price 5s. net.

THE general purpose of this little book is to urge the importance of studying the life history of each patient "as a whole, all of his diseases, past, present and to come, and what relation they bear to his life and sociologic conditions." Dr Gould contends that clinics should be held on the entire life of the patient, but until this is scientifically possible he gleans what he can from biographies, letters, etc.

The special point of view from which Dr Gould makes his observations is a study of "eye strain," more particularly the "subtle and astonishing" influence of undetected and uncorrected astigmatism "upon character, upon literature, and even upon history."

Applying his method to the published records of the lives of the five literary celebrities mentioned on the title-page, he brings together a pitiful tale of the constant struggle with ill-health which all of these men had to endure, and of the long periods of idleness enforced upon each in order to recover energy for work

or to escape the torments of "biliousness" and inexplicable headaches.

The one cure for all appeared to be open-air exercise and cessation of exact eye work. From such fragmentary references to vision as he has been able to discover about each, Dr Gould concludes that they all suffered from errors of refraction; and applies considerable ingenuity to deducing from symptoms casually mentioned, the probable nature of the optical defect in each individual. He diagnoses in De Quincey myopic astigmatism and anisometropia, in Carlyle astigmatism of some sort, in Browning simple hypermetropic astigmatism, and in Darwin and Huxley compound hypermetropic astigmatism. It is unfortunate that he can adduce no positive record of an examination by a competent refractionist of the eyes of any of these notable persons, for the complete support of his contention is thus awanting, but he strongly maintains that a study of the relief afforded by optical treatment to many hundreds of similar sufferers justifies his assertion that 90 per cent. of cases of "biliousness" and apparent digestive disturbances are reflex and secondary consequences of "eye-strain."

To the same cause he assigns a host of reflex functional (general and psychic) disorders, and claims that the Philadelphia School of Ophthalmology has been the pioneer in the discovery of this association and still leads the way in precise refractive estimations. After that we read with some surprise that no importance was attached to the independent correction of each eye in anisometropia by anybody's text-book on diseases of the eye until in 1892 the Philadelphians insisted upon it. Fortunately it is possible to do some things without waiting for text-book directions, and the present reviewer's case-book of 1887 shows that Edinburgh practice preceded Philadelphian preaching by at least five years.

We are glad to see that Dr Gould condemns the "operative manias of the tenotomists." That form of surgical insanity has been little in evidence in this country.

We heartily sympathise with the contention that the estimation of refractive errors is work fit for a physician, and that if the optical mechanicians would recognise the importance of doing rightly their legitimate work, namely, the making and fitting of glasses, it would be greatly to the advantage of the public. If Dr Gould's enthusiasm carries him a little too far in his promises of relief to human ills through optical means, his insistence on the value of refractive correction in many cases can do no harm to those who are unfamiliar with its possible benefits.

Manual of Military Ophthalmology. For the use of Medical Officers of the Home, Indian and Colonial Services. By M. T. BARR, R.C.S.I., Major R.A.M.C. Pp. 236, with numerous illustrations and diagrams. London: Cassell & Company, Ltd. 1902. Price 6s.

THIS small manual presents in a compact and convenient form the ophthalmic subjects of special interest to military surgeons and to medical practitioners in the tropics. It is written in a clear, lucid, and altogether attractive manner, and is certain to meet with great popularity among those for whom it is intended. The chapter on malarial affections is particularly well written, and is an outstanding feature of the book. Several points, however, call for criticism. Somewhat undue prominence has been given to the author's former teachers, while the researches of many well-known home and foreign authorities are ignored. The treatment of strabismus is somewhat antiquated, and in a future edition more attention should be devoted to modern and more scientific methods of dealing with this common affection The after-treatment of cataract by bandaging both eyes and keeping the patient in a darkened room is surely a thing of the past. The rules regarding asepsis are not in accordance with our present knowledge of the treatment of wounds, and the author seems to ignore altogether the enormous value of iced compresses in dealing with traumatic cases. The old nomenclature is condemned wholesale, and perhaps justly so, but why retain such an indefinite word as "Ophthalmia." In retinoscopy the concave mirror is preferred to the plane, and the ophthalmometer is not considered of much service.

There are one or two slips, such as the size of the visual angle at pp. 9 and 10, and a few typographical errors appear, but on the whole we have no hesitation in saying that this small manual will supply a felt want, and we heartily recommend it to all surgeons on foreign service.

Golden Rules of Refraction. By ERNEST E. MADDOX. Bristol: John Wright & Co. Price 1s.

THIS tiny volume, No. 12 of the "Golden Rule" series, is intended chiefly for general practitioners who may be commencing the study of refraction. A number of the paragraphs, however, will in all likelihood be read with interest and advantage by not a few of those who are already familiar with the subject of refraction of the eye.

In a small compass the book contains much sound and useful information which should prove of value to those for

whom it has been written. We do not think that all will agree with the statement that Myopia of 16D and over, in persons under twenty-five, is generally best treated by operation.

Ophthalmic Nursing. By SYDNEY STEPHENSON, M.B., C.M., F.R.C.S.E. Second edition. Pp. 191, with sixty-two illustrations. London: The Scientific Press, Ltd. 1902. Price 3s. 6d. net.

THE question as to whether the nursing of eye patients requires any special knowledge beyond that possessed by any well-trained medical and surgical nurse will certainly be answered in the affirmative by anyone who takes the trouble to peruse this thoroughly practical little manual which now appears in its second edition.

It does not detract from its value to add that many of its pages appear to be more suited to the needs of clinical clerks and house surgeons, for in many hospitals the absence of students throws extra clinical work upon the nursing staff, and both classes may profit by its perusal.

The omission of any reference (so far as we have observed) to the harmful effect of too prolonged use of silver preparations should be repaired in the next edition.

The Errors of Accommodation and Refraction of the Eye and their Treatment. A Handbook for Students by ERNEST CLARKE, F.R.C.S. Crown 8vo, pp. 225, 84 illustrations and one coloured plate. London: Baillière, Tindall & Cox. Price 5s. nett.

THIS is a handbook of convenient size on familiar lines. It gives an account of ordinary refraction testing, and there are also chapters on muscular asthenopia and strabismus. A number of illustrative cases are given, and there is a short appendix on the numbering of lenses, and more especially of prisms. The vision tests for the services form a useful addition to the book. The optical principles explained in the book are of the simplest kind, and the student should have no difficulty in following the text. As expressly stated by Mr Clarke in his preface, special prominence is given to the subject of asthenopia. Eye-strain is a term much used, and its avoidance is constantly insisted upon. Mere repetition of a vague phrase does not tend, however, to increase of knowledge. The book contains many inaccuracies, and many statements are made which are contrary to generally accepted views.

On page 152 it is stated that a myope of 12 D. will be emmetropic after removal of the lens; and on page 77, in speaking of retinoscopy, it is stated that the ametropic observer, if not wearing correcting lenses, has merely to make the necessary allowance for his own error in estimating the refraction of the patient. The ophthalmometer of Kagenaar, so far as we know, is not made with a Wollaston's prism; and, further, it may be noted that even moderately good daylight gives, in our experience, an entirely adequate illumination. Mr Clarke attributes the headaches of astigmatism to unequal contraction of the ciliary muscle, but his arguments in favour of this theory are by no means convincing. Cramp of the ciliary muscle is spoken of as an everyday symptom, yet so great an authority as Hess says he has examined 5000 school children without meeting a single genuine case. Evidently cramp of the ciliary muscle is a term variously interpreted, and the student should be made aware of this. The book may be of value to those commencing the practical study of refraction testing.

The Refraction of the Eye and the Anomalies of the Ocular Muscles. By KENNETH CAMPBELL, M.B., F.R.C.S., Surgeon to the Western Ophthalmic Hospital, London. Demy 8vo, pp. 214, 107 illustrations. London: Baillière, Tindall & Cox. 1903. Price 5s. net.

THE author offers no apology for the appearance of this new volume, although there are several books of similar size on Refraction published in English. In his short preface he states that he has endeavoured to carry out the principles laid down in the thesis of Professor Tait, that "True Science is itself simple, and should be explained in as simple and definite language as possible." If this be his sole reason, as it apparently is, for writing this book, it is a matter of regret, for it reflects adversely on its predecessors, most of which have stood the test of time, and have justified their existence by passing through several editions.

The book, so far as it goes, may be said to have attained the ideal referred to, for it is written in a clear and lucid manner, and the subject is presented in such a way as to be readily understood by any student possessing even a limited knowledge of optics. The faults we observe are those of omission rather than commission, and the frequent reference to the works of one or two authors only, with an unnecessary though not unmerited eulogium, suggesting undue bias, or perhaps a limited acquaintance with the literature of the subject. Tscherning's theory of the mechanism of accommodation is not referred to, nor the use

of the ophthalmometer. The photometer is not described, because in the opinion of the author the light sense is of little significance. In retinoscopy the plane mirror, judging by the few lines devoted to it, has a secondary place. The opinions of Landolt and others regarding the operative treatment of strabismus are not given, nor is Priestley Smith's method of measurement of strabismus referred to. The removal of the lens for high myopia, disposed of in a few lines, is evidently not practised by the author, otherwise the statement that it should reduce the myopia by 10 diopters could not be made. Steven's disc, and Steven's work together with that of several others are totally ignored when dealing with the subject of heterophoria. The Greek characters are dispensed with when giving derivations.

The A.D. after the date 1867 is surely unnecessary, for no one will doubt but Drake-Brockman's first experience of eye work in India was during this dispensation, not B.C. The cause of false orientation in paralytic strabismus being still a moot-point, the muscular theory might also be given.

In pointing out the above omissions, we do not wish to convey the impression that the book is not up to the high standard of many of its predecessors. It is in many ways a very desirable and readable short treatise on the subject of refraction and muscular anomalies, and is worthy of the student's careful perusal.

General Paresis: Practical and Clinical. By ROBERT HOWLAND CHASE, A.M., M.D., Physician in Chief, Friends' Asylum for the Insane, Philadelphia. Pp. 291. London: Rebman Ltd., 1902. Price 8s. net.

THIS Manual is intended mainly for the use of general practitioners, and consists largely of a compilation of the descriptions and views of general paralysis of well-known authors on the subject, who are freely quoted from in the text. The book is readable, well arranged, and nicely written. This is its chief merit. It contains nothing original on the subject, no distinctive promulgation of the author's own views; even the clinical cases are largely borrowed from the standard works. The author recognises four periods in the course of the disease, namely, a prodromal or preparalytic stage analogous to the pre-ataxic stage of tabes, and the first, second and third stages of the established disease. No reference is made under the symptomatology of the blood to the condition of the leucocytes in the disease. The adhesion of pia-arachnoid to cortex is as of old described as a characteristic post-mortem phenomenon, whereas nowadays it is the usual experience in this country to

find that the pia-arachnoid strips readily without laceration of the convolutions. The book is illustrated mainly with photographs of patients exhibiting the different stages of the disease or certain demonstrable special symptoms.

La Démence Précoce. Par le Drs G. DENV et P. ROY. Pp. 96. (Actualités médicales.) Paris: Baillière et Fils, 1903. Price 1.50 fr.

THE authors of this small monograph claim that Dementia Precox is a separate nosological entity, as distinct a disease as general paralysis, and not a special syndrome which may be tacked on to any form of insanity at any period of life. This being so, we do not think that they strengthen their position by distinguishing "precocious dementia" into the three main varieties—(1) hebephrenic (pubescent) or maniacal; (2) katatonic or stuporose; and (3) paranoiac or delusional. In all forms of insanity, there is a tendency to mental death or dementia. In our opinion, only confusion will arise from including amongst precocious dements, paranoiacs in their thirties and adolescents in their twenties. The term Dementia Precox, to have any specific meaning at all, should be limited to those cases of puerile and pubescent insanity in which there is from the first a tendency towards rapid and complete mental extinction. In nature the Precocious Dements are brother and sister to, and removed but a few years from, the Imbeciles and Idiots.

Forty-fourth Annual Report of the General Board of Commissioners in Lunacy for Scotland. Pages lxxx. + 168. **Forty-fifth Annual Report of same Board.** Pages xcviii. + 170. Glasgow: James Hedderwick & Sons.

THESE two reports supply for the years 1901 and 1902 respectively the statistics and other information regarding the insane in Scotland which are annually given by the General Board of Lunacy. The statistical returns show that the number of registered lunatics continues to rise rapidly, there being an increase of 389 in 1901, and of 370 in 1902. At the end of 1902 the total number of insane in Scotland known to the General Board was 16,638. This represents a proportion of 358 insane persons per 100,000 of the general population, and shows an increase since 1858 of 186 per cent., while during the same period the increase of the general population has been only 50 per cent. In 1902 the annual assessment for providing the lands and

buildings of the district asylums for rate-supported patients was equal to a charge of £16, 14s. 1d. per patient, and the expense of ordinary maintenance (food, clothing, management, etc.) was £25, 17s. 10d., making a total annual cost of £42, 11s. 11d. per patient. In the forty-fourth report the statistics of the Lewis district of Ross-shire during the last twenty years are discussed. A very great increase in the amount of registered lunacy has taken place there during that period. It would, however, be quite wrong to conclude that that increase indicated a greater prevalence of occurring insanity in the district, to be accounted for by such causes as intermarriage, migration of the healthy, etc., for even now the proportion of lunacy in Lewis is not greater than the average for Scotland generally; and the course of the statistics can be reasonably explained by the special circumstances of the district in reference to parochial and lunacy administration. This instance shows how the deductions as to increase of insanity, and its causes, often drawn from the statistics of the country generally, may be quite erroneous when all the circumstances of the case are not taken duly into account. In the forty-fifth report the extent and distribution of mental unsoundness in Scotland as deduced from the returns of the census of 1901 are considered. In that census the term "feeble-minded" was for the first time used in the schedule in addition to "lunatic" and "imbecile"; and the number of persons returned as showing mental defect under one or other of these three heads was 20,291, being 4816 in excess of the number on the registers of the General Lunacy Board, and representing a proportion of 453 persons mentally affected per 100,000 of the general population. The report gives tables showing the distribution of these mentally affected persons in the different counties of Scotland, and their proportion to the local population; and from these tables it is seen that the Highland and insular districts, which are mainly rural and non-industrial, show a much larger proportion of mental affection than the central district of Scotland, which is mainly urban and industrial. This seems at first to imply that in urban districts, where stress of living, alcoholism, vicious habits, and other conditions which are recognised as active causes of insanity are most marked, there is less mental affection than in districts where these conditions do not come so much into play. But further examination shows that the high proportion of lunacy in the rural districts is in all likelihood due almost entirely to the greater amount of imbecility or congenital defect found there, as distinguished from acquired insanity coming on later in life. Statistics seem to show that the amount of acquired insanity is relatively as great in the

urban as in the rural districts, if not actually greater. How then can the smaller proportion of congenital imbecility in the urban districts be accounted for? An important factor here is the infantile mortality rate. It is found that in the urban districts referred to the death-rate among children under ten years of age is double, and sometimes even three times greater than, what it is in the rural districts; and it seems reasonable to conclude that in the latter a proportion of weakly children survive and grow up to be added to the list of those recognised as suffering from mental defect, while in the urban districts the corresponding class succumb at an early age under their less favourable surroundings, and are thus excluded from the lunacy statistics.

Nineteenth Annual Report of the Royal Edinburgh Asylum for the Insane. For the year 1902.

THERE are fewer features of general interest than usual in this year's report of the Royal Edinburgh Asylum, which among reports of such institutions has earned a reputation of its own for supplying matter for reflection, and even for entertainment. The Craig House portion of the Asylum is highly commended by the Commissioners for the excellent accommodation and treatment it affords for the wealthier classes of the community, and it appears to be financially in a very flourishing condition. Owing to overcrowding at the West House, the Asylum has, however, not adequately fulfilled one of its most important objects, that of providing accommodation at moderate rates for the insane of the intermediate classes. The population of this department numbers 742, or 20 per cent more than there is space for, and this state of affairs, due to the failure of the Edinburgh District Lunacy Board to erect in good time their new asylum at Bangour, has caused deplorable results. Dr Clouston states that "This was bad for the discipline and quietude of the wards, bad for the health of the patients, and not too good for their recovery." These views are fully borne out by the statistics, for the recovery rate was less than 32 per cent. of the admissions, instead of about 40, and the death rate was higher than it has ever been before, higher even than during the first incidence of the influenza epidemic. The mortality from phthisis is greater than usual, and Dr Clouston attributes this partly to the cold sunless summer of last year. Another disorder more directly traceable to overcrowding was asylum dysentery or colitis, a disease of a specific, infective character, and out of twenty-seven female patients attacked, seven died, all these having been in a weak condition previously, owing to

other causes. The death rate in this Asylum tends to be maintained above the average by the large number of cases of general paralysis it admits, no less than 13 per cent. of its total admissions being of this fatal disease. There appears to be very good grounds for believing that this disease is more prevalent than formerly in the Edinburgh district. Not so convincing, however, are Dr Clouston's references to indulgence in alcohol as a cause of insanity. Year after year the proportion of cases referred to this cause rises in number, and now it has reached 28 per cent. of the total admissions. Such a statement is misleading to the uninitiated, and very inaccurate deductions may be drawn from it. Were the use of alcohol totally prohibited, is it believed that the amount of insanity in Edinburgh would diminish 25 per cent. or anything like it? How does it happen, in spite of this heavy handicap, that the proportion of insanity occurring in the Edinburgh district is much less than that in many rural areas in Scotland, where alcoholic abuse is comparatively a negligible factor in the causation of insanity? In 28 per cent. of the admissions alcoholic indulgence may have been alleged as the cause of the attack of insanity by relatives or neighbours, but to what extent in these cases it was merely a contributory cause, if a cause at all, and in what much smaller number it was the essential cause, are matters for conjecture. In any case such vulgar guesses at the etiological factor of the most obscure and complex of diseases are not likely to have been right every time.

Dr Clouston, in concluding his report, puts in a good word for the benefits that would result from the establishment of mental wards for cases of mild or incipient insanity in the Royal Infirmary, and deplores the misconceptions that exist as to the class of cases proposed to be treated there, and as to the practical difficulties of the scheme.

Atlas and Epitome of Diseases of the Mouth, Pharynx and Nose. By Dr L. GRÜNWALD of Munich. Second edition, revised and enlarged. Pp. 219, with 102 illustrations on 42 lithographic plates, and 41 figures in the text. Authorised translation from the German, edited, with addition, by JAMES E. NEWCOME, M.D., New York. Philadelphia and London: W. B. Saunders & Company. 1903. Price 13s.

THIS useful and beautifully illustrated handbook is the American translation on a much more extensive and imposing scale of Dr Grünwald's little "Atlas der Krankheiten der Mundhöhle, des Rachens und der Nase," published in Munich

in 1894, which has enjoyed a wide circulation in most German and Austrian schools since that time. Originally a collection of plates of Diseases of the Mouth, Pharynx and Nose, there now appears in addition a compendious epitome on the pathology and treatment of these diseases and a number of plates of microscopical sections.

As the work of so capable and distinguished an author, it goes without saying that it has been well and ably carried out, and that it constitutes a valuable addition to the handy series to which it belongs.

The plan of the book is well conceived. It is divided into two parts: the first half, consisting of the plates with descriptions, with the histories of the cases on the opposite page; and the second being an epitome (212 pages) of the pathology and treatment of the diseases of the mouth, pharynx and nares, with their accessory cavities.

In the first part the plates have been much improved since the publication of the first German edition, more especially in the colouring—and more have been added. There are first 42 coloured plates, with 80 figures dealing with diseases of the mouth, tongue, palate, tonsils, pharynx, naso-pharynx and nose, followed by 22 histological drawings, mostly of nasal affections. The full description of the figures, and, where necessary, the history of the cases from which they were taken, on the opposite pages, much enhance their value.

The second half of the book consists of an epitomised account of the various diseases of the parts, and considering the limits and size of the work, it must be admitted that it is wonderfully exhaustive.

The arrangement of the contents is on a pathological, not on the usual regional basis. After a short notice of the Anatomy and Physiology of the parts, their diseases are discussed under General and Special Pathology and Treatment, the latter comprising the main exposition of the subject. Under the latter heading we have first Acute and then Chronic Inflammations treated, while as an appendix the remaining affections are described, viz., Inflammatory Diseases and Hyperplasias of the Lymphatic Ring; Mycoses; Neoplasms; and Appearances observed in the Upper Mucous Membranes in General Diseases; Diseases of the Nerves and Muscles; Injuries; Foreign Bodies and Malformations. Throughout the second part constant references to the plates of the first conduce greatly to a clear understanding of the contents.

The descriptions of the various affections are necessarily short and condensed, and lack the fulness and detail of a larger work; but in the main they suffice to attain the object stated by

the author in his preface, viz., to assist students and practising physicians to obtain a clear understanding of the more difficult departments of the subject.

Under Chronic Inflammations the diseases of the maxillary-frontal, ethmoidal and sphenoidal cavities are treated, and the author's special instruments and methods of treatment are described, evidently abridged from his larger work on Nasal Suppuration.

The translator has also done his work exceedingly well, and it is almost entirely free from the peculiarities of American English, so often met with in Transatlantic publications. A good many notes by the translator, giving American views of the topics discussed, are introduced into the text within parentheses, the chief one being on the uses of adrenalin in nasal diseases.

To recapitulate, the volume before us is an excellent one and will form a useful addition to the enterprising publisher's series of Atlas Manuals, at a price that not long since would have been impossible. As Dr Grünwald concedes in his preface, nothing can take the place of observing the actual cases under an experienced teacher in this department of study. Yet this book is a distinct aid to the student, and a valuable guide to the busy practitioner who cannot enjoy the advantage of special training. It deserves to have a large circulation in this country.

Buxton: Its Waters, Baths, and Accessory Methods of Treatment. By WM. ARMSTRONG, M.R.C.S., and J. E. HARBURN, L.R.C.P., L.R.C.S. Edin. Pp. 71. Bristol: John Wright & Co. 1903. Price 1s. net cloth; 6d. net paper.

IN this small handbook we are informed of the nature, action and therapeutic effects of the waters and baths of Buxton, and the indications and contra-indications for their use are set forth. The various accessory means of treatment, such as vapour, light, and hot air baths, electricity, Nauheim baths and diet, receive due attention in this handbook, which we can recommend to those members of the profession who desire information on the special treatment obtainable in Buxton.

All Communications—including **BOOKS** *for* **REVIEW** *and* **EXCHANGE JOURNALS**—*are to be addressed to* THE EDITORS, 7 *Manor Place, Edinburgh.*

THE SCOTTISH
MEDICAL AND SURGICAL
JOURNAL

GRADUATION ADDRESS TO THE GRADUATES OF EDINBURGH UNIVERSITY

By Prof. CRUM BROWN, M.D., F.R.S., F.R.C.P.

VICE-CHANCELLOR, LADIES AND GENTLEMEN.—During the past year great changes have taken place in the Senatus of the University. Principal Sir William Muir, and Professors Flint, Laurie and Butcher have left us, Sir William Turner remains not as Professor of Anatomy but as Principal, Professors Cunningham and Darroch have been inducted, and within the last few days Professor Paterson has been appointed to the Chair of Divinity and Professor Mair to that of Greek. Our gratitude, respect and affectionate good wishes follow those who leave, while we cordially welcome those who come.

GRADUATES, it is now my duty, and it is also a pleasure, to congratulate you on the attainment of your academic majority. You have acquired the freedom of this intellectual community, and can regulate your work uncontrolled by the stimulus or the fear of examinations. These artificial tests are now behind you, before you lies the real test of life. May your success here be followed by success in the work to which you now turn. And while you remember that the race is not always to the swift, neither is it, as a witty American writer reminds us, always to the slow. Ability, knowledge, skill, perseverance and all the other qualities that go to make a good and useful man may not perhaps lead you to the top of your profession, but they are good things to have in any case, and you are more likely to succeed with them than without them. But I need not give you advice, you all know what is the straight course, you all know that you should follow it; and if any of you wander, it will not be from want of knowledge. You are now

looking forward, you have your ideal which in the future you will to some extent realise; in all human probability most of you have more of your life before than behind you. That is not the case with all of us. Some of us are more inclined to look back than to look forward, to look back with a mixture of regret and gratitude.

The Graduation at the end of the Summer session used to be almost exclusively in Medicine, and so it is that, although there are among you graduates in other Faculties, it falls to the promoter in the Faculty of Medicine to address the graduates at this time. My remarks are therefore more especially directed to the Medical graduates, although I hope some of them may not be altogether uninteresting to those who have chosen other professions. I have said some of us are more inclined to look back than to look forward, and I wish now to look back for a little on the progress which the healing art has made since I graduated in Medicine and listened to my teacher and friend, Professor Allman, as you now listen to me. I have said the healing *art*, for we must keep in mind that, although your education for it has been largely scientific, it is an art which you have to practice. It is one of the arts called useful arts, in distinction from the fine arts.

The fine arts come from an internal necessity. The true poet and the true artist, like the prophet, have, as it were, a fire in their heart and cannot restrain it. The useful arts arise from external necessity, the need of food, clothing, shelter, comfort and help in illness. And it is from them that the sciences have grown. So Geometry comes from Land-surveying, Dynamics from Engineering, Botany from Gardening, Chemistry from Pharmacy and Metallurgy, Anatomy, Physiology and Pathology from Medicine, and so on. I think we may say that it is human curiosity that has led to this development. We wish to know how the thing works, or, as Clerk Maxwell, when a boy, said, to find out the "particular go of it." But when the sciences have grown up they repay their parents, and this to such an extent that men of science and other people too are apt to forget that the arts are older than the sciences.

Looking back, then, some forty years, we see that a great change has come over the practice of Medicine and Surgery.

The changes are partly in new methods of diagnosis, improvements in our means of observation, partly in new methods of treatment, additions to our power of doing things. Let us look at some of these. We have the use of the Röntgen rays, by means of which we can obtain shadows of internal parts or objects which are less transparent to these rays than the surrounding tissues. We can thus ascertain the position and condition of bones and of metallic foreign bodies such as needles or bullets. We have also the use of incandescent electric lamps to light up many internal cavities, so that their walls and contents can be examined by the eye. These may suffice in the meantime as specimens of recently introduced ways by which our powers of observation have been extended.

There can be no doubt that by far the most striking, as well as most important in its practical effect, of the improvements in surgical practice introduced within the period of which we are speaking, is the antiseptic treatment of wounds. I believe it is impossible for you by any effort of imagination to realise the change in the whole aspect, as well as in the results of surgical practice which has followed from Lord Lister's great revolution. One must have seen them both in order to appreciate the enormous difference between the best kept and cleanest surgical ward then, and what may be seen in any hospital now. Then union by first intention was not exactly unknown, but was very rare. Wounds, as a rule, healed by granulation, with the formation of much pus, involving frequent dressings and constant anxiety from the risk of pyæmia. Many operations with which you are familiar were hardly ever ventured on, the danger of pyæmia was too great. Thus many surgeons considered it almost criminal to open a psoas abscess, and the mortality in all abdominal operations was very high. After the revolution the mortality from severe operations went down at once. You all know the principle of the antiseptic treatment, it depends upon the theory, fully supported by the most careful observation and experiment, that suppuration is brought about by minute organisms introduced by the air or by the fingers or the instruments of the surgeon or of his assistants, or from the dressings, in any case from without, and that the way to prevent suppuration is to prevent the entrance into the wound of such organisms in a living condition. I have heard Lord

Lister asked at an early stage in his preaching of the new doctrine, "Would it not be simpler to lay down rules, really founded on the theory, and let surgeons see that these rules lead them to good results, and so avoid the difficulty of convincing practical men who have no great turn for science that your theory is correct?" He said, "No, it would be impossible to draw up the rules or to observe them without keeping the principle constantly in view." And, indeed, men have been known who believed that they were practising antiseptic surgery, and honestly intended to do so, and yet in some detail would forget and leave a way open for the entrance of the enemy. I do not suppose such a thing happens often now; most men who operate have got the principle too well implanted in their minds to allow them to make such slips, and those who have been brought up under the new regime have no old habits to get rid of; in all that you have seen or done in the wards, the antiseptic principle has been kept before you.

The introduction of the antiseptic treatment has greatly extended the domain of surgery. There is scarcely any part of the body in which disease or injury can defy the surgeon, and operations are safely performed which would not have entered into the wildest dreams of the last generation.

In medicine also great advances have been made. I may refer shortly to a few of these. Pure chemical substances have to a great extent taken the place as drugs of the old extracts, tinctures, infusions, etc.; and many artificially prepared substances, of which I may mention chloral and antipyrine as instances, have been introduced. Pharmacology, the study of the precise way in which each such pure substance acts on the animal system, has, thanks in no small degree to work done in the Materia Medica department of this University, made great progress. The physician thus knows more certainly both what and how much he is prescribing.

Progress of an interesting and practically most important kind has been made by the discovery of the action of micro-organisms and their products on the animal economy. These minute plants and animals have thus become even more interesting to the physician than to the surgeon. In many infectious diseases the organisms have been isolated and culti-

vated, and their life-history has been studied. We know a good deal of the way in which they gain access to the body and of the conditions under which they thrive there. We also know that these pathogenic organisms produce substances, apparently of a proteid nature, which act as poisons, and are the immediate causes of the symptoms of the disease. Such "toxins," like other foreign proteids introduced into the blood, give rise to the formation there of "anti" substances. In the case of toxins these are "antitoxins." The antitoxin, perhaps by uniting with the toxin, prevents its poisonous action, and in some cases destroys or greatly weakens the pathogenic organism. We can thus to some extent understand how such diseases run a natural course and come to an end if the patient lives long enough. The study of these phenomena has led to a clearer understanding of the cause of the immunity from infection by a disease in the case of persons who have already had it, and has also led to ways of producing immunity without the necessity of going through the disease. For the toxin can be injected without the pathogenic organism, and in quantity quite under control. The toxin so introduced causes the formation of antitoxin in quantity more than sufficient to neutralise it, and this excess of antitoxin confers immunity. Or antitoxic serum, that is, the blood-serum of an already immunised animal, can be injected and thus produce immunity directly. Antitoxic serum has also been found of great therapeutic value; in the case of diphtheria it has saved very many lives.

The relations of pathogenic organisms to the substances produced in consequence of their presence in the blood of living animals have given rise to diagnostic methods of which I shall mention only one. The blood of persons suffering from typhoid fever (and also the blood of animals rendered immune to typhoid fever), contains a substance which has a very marked effect on the typhoid bacillus. If to a drop of pure culture of typhoid bacillus there be added a small quantity of blood (much diluted) from a typhoid patient, a very distinct change will be seen under the microscope. The bacilli, which before the addition of a fraction of a drop of the blood were moving actively and independently, are now seen to become languid, and to agglomerate into bunches. This is most strikingly to be observed by comparing a drop of pure culture to which

nothing has been added with one with which there has been mixed the small quantity of typhoid blood. This effect is not produced by blood unless it has been derived from a typhoid patient or from an animal immunised against typhoid fever.

I need not remind you of the great work of Pasteur, the pioneer in the application of modern scientific methods to the development of what Jenner began, a work which has led to the foundation of what we now call "Preventive Medicine." Nor need I do more than refer to the important practical results that have recently followed from these investigations. The knowledge of the way in which tuberculosis is communicated from one person to another is leading to the adoption of measures which may reasonably be expected to diminish very much the prevalence of that widely-spread and fatal disease. The knowledge of the part played by the mosquito in the propagation of malaria, the account of which reads more like a fairy tale than a scientific narrative, has already led to important practical results, and we may look with hope to seeing large parts of the world, now shunned by all who are not forced by duty or necessity to live or to die in them, brought into a really sanitary condition.

There are substances closely resembling the toxins of disease, not like them the products of vagrant organisms, but of the fixed and settled cells of animals or vegetables. Such is the snake's venom formed in the cells of the poison glands. The experiments of Fraser and of Calmette have clearly shown that an "antivenene," to use Fraser's term, is produced in consequence of the presence of the venom in the blood of an animal bitten by the snake, and that if the quantity of venom introduced at one time is small, this antivenene both antagonises the venom and establishes immunity. The snake of course absorbs some of its own venom, and produces its own antivenene, and is thus saved from self-poisoning, and the blood, and very specially the bile of the snake, are both antidotes and prophylactics. The serum of an animal immunised by the administration of graduated doses of venom can be used to cure or to immunise other animals. Similarly the vegetable poisons abrin and ricin, which seem to be albumoses, when injected in non-lethal doses give rise to anti-substances which produce immunity to the poison injected. So general does this

production of anti-substances seem to be, that serum albumin of one animal will produce an anti-substance if injected into the blood-vessels of an animal of a different species. These anti-substances are called "precipitins," they produce precipitates each of them with the particular serum albumin which was the occasion of its formation. Thus, if human blood is injected into the blood-vessels of, say, a horse, the precipitin formed in the horse's blood will cause a precipitate when it is mixed with human blood, but not when it is mixed with the blood of another animal. It is perhaps premature to speak positively as to the absolute sharpness of such reactions, but there can be no doubt that they add greatly to the means at the disposal of the medical jurist for determining from what species of animal a specimen of blood or a blood-stain has been derived.

An interesting and practically important therapeutical discovery, allied to some of those just spoken of, is that of the action of gland extracts, among which may be specially mentioned thyroid extract and adrenalin.

I have touched hurriedly and imperfectly upon a few of the ways in which science has been repaying its debt to art. I have no doubt many others will occur to you. In them we have additions to our means of observing, or to our power of doing, aids we may say to the eyes and to the fingers. But between the eye and the fingers something must come. When the most careful and exhaustive examination has been made, and the best attainable diagnosis arrived at, the practitioner knows what *can* be done, he has to make up his mind as to what *ought* to be done, what he ought to do, and he has to make up his mind quickly. There is no general solution of such a problem, each case has to be judged for itself. Science does not help us here, it is a matter for sound judgment, the same kind of sound judgment that leads a business man right in questions of business. We naturally enough ask, has this part of the work of our profession advanced as the means of diagnosis and of treatment have? I do not see how this question can be answered. We cannot find out how our predecessors would have got on had they enjoyed our advantages, nor can we tell how well or how ill the present representatives of medicine and surgery would get on without

them. What we have to do is to make what use we can of the means of observation and of treatment at our disposal, and to cultivate that soundness and readiness of judgment without which no scientific processes of observation and no manipulative skill will help our patients. This soundness and readiness of judgment can be cultivated. It cannot be made right off. It is not a secret that can be communicated. It must grow. But we can give or not give, as we please, the chance of growth. Like most of the best things it comes incidentally; it comes from the habitual conscientious performance of duty. It is a gift to the good and faithful servant over and above his wages. May this and all other good gifts be yours; you know whence they all come.

LIPÆMIA IN DIABETES MELLITUS[1]

By Sir THOMAS R. FRASER, M.D., F.R.S., V.P.R.C.P.E.,

Professor of Materia Medica and of Clinical Medicine in the University of Edinburgh; President of the Medico-Chirurgical Society of Edinburgh

(With illustrations)

I AM led to bring this subject before the Society by the recent occurrence in my hospital practice of a case of diabetic coma in which a remarkable production of fat in the blood was not only demonstrated at the post-mortem examination, but had also been determined during the life of the patient. The case, accordingly, possesses an interest greater than is derived from the mere addition of another to the very small number of the recorded cases of diabetic lipæmia.

John Hills, aged 17, a mason-hewer residing at Carlisle, was admitted into the Royal Infirmary on the 29th of May 1902 with the ordinary symptoms of diabetes mellitus. There was no ascertainable family susceptibility to this disease; the patient was in good circumstances for his rank in life; he had been well cared for and fed, and had been temperate in all respects; but his occupation had exposed him to bad weather.

History of Illness.—Until the present illness he had enjoyed good health. About twelve weeks before his admission into the Royal Infirmary, his mother had noticed that he was

[1] Communicated to the Medico-Chirurgical Society of Edinburgh on 20th May 1903.

drinking an unusually large quantity of liquid, and he had himself observed that he required to empty his bladder several times during the night, and that he was losing weight.

These circumstances led to his consulting Dr Macdonald of Carlisle, who told him that he was suffering from diabetes, and advised him to stop all work, to adopt a special dietary and to take morphine.

Under this treatment his condition so far improved that he gained weight, while both the polydypsia and polyuria became lessened ; but as the glycosuria persisted, Dr Macdonald advised him to go to the Royal Infirmary of Edinburgh, and on his recommendation he came under my care.

Condition and Symptoms.—On his admission, the patient was found to be a lad of fair muscularity, 5 feet 5½ inches in height, and weighing 7 stone 11 pounds. His temperature was 98° F., and it may here be mentioned that the temperature continued normal from the time of admission until the death of the patient, and that the breath had a distinct acetone odour.

On more detailed examination, it was found that the skin was dry and slightly itchy, but no cutaneous eruption was present. The appetite was good without being voracious. There was much thirst, about two pints of liquid being drunk in the twenty-four hours in addition to what was taken during meals. There was no symptom of dyspepsia. The bowels moved once and sometimes twice in each day, and the stools were well formed and of dark colour. Many of the teeth were decayed ; the mouth was dry, and the tongue was only slightly furred.

There was no tenderness or undue resistance at any part of the abdomen, and no enlargement of the spleen or liver, the latter measuring 5½ inches in the mammary line.

The respiratory and circulatory systems were healthy, the pulse, however, being slow and weak.

There was no evidence of neuritis, the knee-jerks were retained, vision was unimpaired, and ophthalmoscopic examination revealed no abnormality.

The examination of the urine showed that it contained a large quantity of glucose ; and acetone and diacetic acid and a small trace of albumen was found in it. The results

of the analysis of the urine voided on the 22nd of May (two days after admission) were: total quantity, 174 ounces; reaction, acid; specific gravity, 1035; glucose, 5063·4 grains; urea, 713·4 grains; albumen, a faint trace.

Treatment.—The patient was put on ordinary diet, and this was continued until the 3rd of June, when an anti-diabetic diet was substituted, and was continued until the death of the patient on the 7th of July.

No special medicinal treatment was at first adopted, but on the 20th of June the patient began to take thirty grains of sodium phosphate thrice daily, and continued doing so until the 5th of July.

Progress.—During this period, the body weight remained nearly constant, the variations amounting to only two or three pounds from time to time, but, probably because of the unaccustomed indoor life and lessened exercise, the bowels occasionally became constipated and required a saline purgative and enema to be administered about once in each week.

Excepting the first and the last weeks of treatment, the weekly averages of the results of the daily observations on the urine were as follows:—

1902.	From 27th May to 2nd June.	From 3rd June to 9th June.	From 10th June to 16th June.	From 17th June to 23rd June.	From 24th June to 30th June.
Pints drunk per day . . .	19	12	9½	8½	7½
Urine passed per day, ounces .	351	245	253	188	212
Colour	pale yellow	pale yellow	pale yellow	pale yellow	pale yellow
Glucose, grains per day . .	10,195	6847	6487	5121	3940
Urea, grains per day . .	975	1077	713	874	585
Average specific gravity . .	1033	1033	1031	1033	1030

Treatment.—Ordinary diet up to the 2nd of June; diabetic diet from the 3rd of June onwards; sodium phosphate, thirty grains thrice daily, from the 20th of June onwards.

Under dietetic treatment, the urine in a few days became free from the slight trace of albumen which was present on the admission of the patient. Under this treatment, also, a considerable reduction was effected in the quantity of urine and glucose, and of the liquids drunk by the patient; while a still further reduction was produced after the treatment with sodium

phosphate had been begun. The skin became less dry, and the patient regained strength, and in the last week of June he felt so much improved that he spoke of going home.

The acetone odour of the breath, which had been only faint when the patient first came into hospital, became, however, more distinct at the middle of June, and on the 26th of June, a faint trace of albumen again appeared in the urine and persisted thereafter, although only as a faint trace, until the 5th of July. On that day, the quantity of albumen had, for the first time, so far increased as to be measurable, and it was found to be 1·05 grains per ounce of urine; while a few hyaline, granular and fatty casts were found in the urine.

The average daily quantities of the more important constituents of the urine of the five days from the 1st to the 5th of July inclusive, were as follows:—

Total quantity of urine, 168 ounces; glucose, 4119 grains; urea, 690 grains.

The average specific gravity was 1028, the reaction acid, and the colour pale yellow.

On the 5th of July itself, the quantity of urine was 144 ounces, it was acid in reaction, and had a specific gravity of 1027; and it contained 3283 grains of glucose, 151·2 grains of albumen and 748·8 grains of urea.

In the afternoon of this day, the 5th of July, the first variation occurred from the state of uniform good health which the patient had enjoyed while in the hospital. He felt drowsy and complained of feeling generally unwell and, contrary to his custom, he remained in bed all afternoon. It is noted that the drowsiness had passed off at 7.30 that evening.

On the 6th of July, at 8 A.M., the patient was again, and more pronouncedly, drowsy, but he answered questions intelligently. His condition, however, had undergone a profound change. The lips and face were cyanosed; the pulse, which on the previous day had been only 76 per minute, was now so rapid as 166 and it was small and feeble, though regular; and the respirations, while showing no acceleration, were deep and accompanied with sighing sounds. The drowsiness soon passed into a semi-comatose condition. At 8.45 A.M., a solution of sodium bicarbonate was transfused into the median basilic vein, with slight temporary benefit.

At 10.30 A.M., the face and the surface of the body were seen to be covered with a purplish blue mottling, the respirations were 27 per minute, deliberate, very deep, and apparently made with much effort, and both inspiration and expiration were accompanied with a sound. The patient complained of considerable pain in the region of the stomach.

At 12.30 P.M., the surface mottling had become less marked, and the respirations were 30 in the minute. During the night, the patient was occasionally restless and noisy, but he otherwise slept well.

At 1 P.M., the patient was lying with the head turned back and being moved from side to side, and he was breathing deeply with heaving chest and opened mouth. An examination of the fundus of the eye showed that the retinal vessels had the appearance of pale streaks.

At 4 P.M., the pulse was 160 per minute, weaker and now irregular, and the respirations had the same characteristics as last described. Strophanthin was injected subcutaneously and 15 ounces of bicarbonate of soda was transfused. The condition improved, the pulse becoming slower and stronger, and the respirations accompanied with less effort. The mental condition also improved, and the patient now complained of much thirst and drank milk eagerly.

At this time (4 P.M.), a microscopic examination made of the blood presented features of much interest. Under a 1-12th Leitz immersion lens, the red corpuscles presented a slightly opaque red tint, and were grouped irregularly without forming rouleaux. The plasma showed a very fine granulation due to colourless granules in rapid oscillatory, "Brownian"-like movement. After standing for an hour, the preparation was again examined, and some clear refractile droplets were seen in the plasma, less than half the diameter of a red blood corpuscle. The red blood-corpuscles were themselves "cloudy" in appearance, the plasma otherwise being as noted above.

The specific gravity of the blood was 1036, the red blood corpuscles numbered 4,550,000 per c.mm. and leucocytes, 23,800 per c.mm. The hæmoglobin could not be estimated as the blood formed with distilled water a bright red semi-opaque mixture and not a clear solution of hæmoglobin.

Films, stained with perosmic acid and mounted in Canada

turpentine, showed many black opaque droplets scattered over the field, and red corpuscles in irregular clumps. The plasma otherwise was nearly transparent.

Films stained with hæmatein and Soudan No. iii. showed a large amount of free fat in globules of various sizes. Many of them were as large as red blood-corpuscles, but the greatest number were minute droplets of which some were irregular in shape. A polymorphonuclear leucocytosis was also apparent, in which a few of the large mononuclear leucocytes contained droplets of fat in their interior (phagocytic inclusion ?). No foreign matter was seen in the blood which did not give the "fat reaction," nor was any special abnormality of the red cells observed. (See Plate III., fig. 1.)

The improvement noted above was, however, only temporary. At 6.50 P.M., the patient became semi-comatose, and although he looked up when spoken to, his answers to questions were unintelligible. The abdomen was much swelled and tympanitic. At 9.30 P.M., 25 ounces of 5 % solution of bicarbonate of soda was injected into the cellular tissue at the left side and strophanthin was again injected, and the injection was repeated every two hours.

On the 7th of July, at 3 A.M., the temperature was 97° and the pulse and the respiration rates 160 and 28 per minute, respectively.

At 10.30 A.M., the semi-comatose condition had given place to complete coma, the skin was still mottled but less so than formerly, and the respirations were deep and both inspiration and expiration were sighing.

At 11.50 A.M., Dr George Berry kindly made an ophthalmoscopic examination, with the result that the vessels of the fundus were found to be pale in colour, due, in Dr Berry's opinion, either to something contained in them or to some change in their walls.

The patient was now obviously sinking. He lay unconscious with the head thrown back and the tongue protruding from the mouth. The pulse became slower and weaker, and death took place at about 12.30 P.M., the breathing retaining some degree of its deep and forced character nearly to the end. The fatal termination thus occurred in less than two days after the first appearance of symptoms of "acetonæmia."

Sanction was fortunately obtained for a post-mortem examination, which was made on the following day (8th July) by Dr Stuart MacDonald. In contrast with the generally negative, and to that extent unsatisfactory results of examination made after death from diabetes, several very striking and interesting conditions were revealed.

Neglecting for the moment the less important results of the examination, I would especially draw attention to the circumstances that when the cavities of the pericardium, pleura and peritoneum were opened and the subdural space in the cranium was exposed, a large quantity of a milky fluid was found in each of them; that wherever blood had escaped from blood-vessels or organs, the escaped blood had a dirty pinkish colour, not unlike a mixture of strawberries and cream; and that many of the exposed blood-vessels, as those of the peritoneum and surface of the brain, were white or reddish-white in appearance, along varying and often considerable lengths of their course.

The last noted appearance was well shown in the vessels on the surface of the brain, in many of which the separation of the nearly colourless fatty constituents from the darkly coloured blood closely reproduced the appearances presented by the blood when kept for a short time *in vitro*, outside of the body, as illustrated in Plate I., fig. 2 (the brain itself with photographs and drawings were exhibited, and one of the latter has been reproduced in Plate I., fig. 1).

It was also obviously displayed on naked eye examination in the vessels of the retina (exhibited with a drawing reproduced in Plate II., fig. 1), and thus a confirmation was obtained of the remarkable appearances of the fundus of the eye, which had been seen on ophthalmoscopic examination during the life of the patient, the cause of which was now unambiguously explained by the circumstances that the milky appearance could by slight pressure be made to move along the retinal vessels, and that the removed contents of one of these vessels exhibited, under microscopic examination, an enormous number of droplets, which gave fat reactions with perosmic acid and with hæmatein and Soudan reagents. (A magnified view of a large retinal blood-vessel is reproduced in Plate II., fig. 2).

In regard to the several organs, they were generally healthy,

'LATE I

Fig. 1

Fig 2

the aberrations from that condition consisting merely of moderate fatty degeneration in the liver, kidneys and intima of the aorta, and of congestion of the pancreas, of both lungs, of the kidneys, especially in the lower lobes, and of the stomach. In the last organ, the hyperæmia was intense towards the cardiac end, where also some hæmorrhages had occurred, a large quantity of tarry-looking material being contained in it.

The Report of the post-mortem examination made by Dr Stuart MacDonald, one of the Pathologists to the Royal Infirmary, is as follows :—

John Hills, died 7th July 1902, *sectio* 8th July 1902.

Rigor Mortis. General nutrition, poor. Lividity, marked. Abdomen prominent with post-mortem change on abdominal wall.

Pericardium.—Contains 5 oz. of milky fluid, with hardly any trace of blood in it.

Left Pleura.—No adhesions; contains 2½ oz. of blood-stained fluid, with oil globules in it distinctly visible to the naked eye.

Right Pleura.—Old fibrous adhesions over lower lobe. Contains 5 oz. of fluid similar to that in the left pleura.

Heart.—Weight 7 oz.—On surface, evidence of chronic pericarditis on the anterior surface of the right ventricle and the posterior aspect of the left ventricle. The pericardium contains milky fluid as mentioned above.

Pulmonary Valve.—Competent, segments healthy.

Aortic Valve.—Competent, segments show chronic thickening, no vegetations, there are patches of fatty degeneration in intima of aorta.

Mitral Orifice.—Admits two fingers. Edges of posterior cusp show slight nodular thickening, anterior cusp healthy.

Tricuspid Orifice.—Admits three fingers. Cusps show nothing abnormal.

Left Ventricle.—Empty.

Left Auricle.—Empty and of normal size.

Right Ventricle.—Contains post-mortem thrombus with small amount of ante-mortem thrombus extending up pulmonary artery.

Right Auricle.—Dilated, with small amount of ante-mortem thrombus.

Myocardium.—Fairly firm, in parts brown and tears readily.

Coronary Arteries.—Look healthy, no atheroma.

Right Lung.—Weight 17 oz. No infarction. No tubercle in whole lung. Slightly congested. Shows nothing specially abnormal.

Bronchial Glands.—Dark, pigmented, no caseation.

Pulmonary Vessels.—No degeneration in wall.

Upper Lobe.—No distinct pneumonic consolidation; mottled dark congested areas alternating with emphysematous patches. Pinkish fluid exudes on squeezing the red areas.

Lower Lobe.—Numerous small petichiæ on outer surface of lower lobe. No definite pleurisy. Lower lobe distinctly congested, similar mottling, areas more solid, suggesting broncho-pneumonia.

Left Lung.—Weight 17 oz. No pleurisy. Few sub-pleural petichiæ. Emphysema along anterior margin.

On section.—Dark and congested areas.

Lower Lobe.—Areas of broncho-pneumonic consolidation.

Peritoneum.—Contains milky. fluid. Superficial fascia contains milky fluid.

Small Intestine.—Marked distension of coils.

Stomach.—Contains large quantity of tarry-looking material which appears to be altered blood. Intense congestion especially towards cardiac end, with hæmorrhages. No ulceration.

Pancreas.—Small, soft and flabby; appears to be swollen with hyperæmic patches and small hæmorrhages in places.

Liver.—3 lb. 14 oz.—Surface shows yellowish patches. Gall bladder contains dark bile. No gall stones. Tissue is distinctly brownish with yellow patches of fatty degeneration.

Spleen.—4 oz. Soft and pinky red in colour. Malpighian bodies not evident. Slight acute congestion.

Left Kidney.—5½ oz.—extremely flabby. Capsule strips readily leaving smooth surface. Stellate veins engorged. *Cortex:* superficial, normal size; deep, swollen in places. Cortex is pale and collecting tubules swollen. *Medullæ:* engorgement of straight venules especially at bases of pyramids; no cysts and no thickening of vessels; intertubular vessels and malpighian bodies injected.

Right Kidney.—6 oz. In same condition as left.

Bladder.—Distended.

Scalp.—On opening head, escape of large amount of milky fluid from subdural space.

Brain.—3 lbs. 3 ozs. On removing the brain there was seen to be some excess of slightly turbid fluid in the pia arachnoid. The vessels at the base of the brain showed nothing abnormal. The vessels on the surface of the brain were prominent; many contained a distinctly milky looking fluid which was evidently displacing the blood. It could be readily moved along the vessels by slight pressure with the finger. This milky fluid was irregularly distributed along the vessels; here and there ordinary looking blood was seen. The change was particularly well seen in the larger vessels in the frontal regions on both sides, but in places it could be seen in the most minute vessels. The brain as a whole was extremely soft. There were special areas of softening of the right side in the upper tempero-sphenoidal convolution and over the outer aspects of the parietal and frontal lobes. The brain was not cut into.

Retinæ.—On examining the retinæ, numerous white opaque lines (in the position of the vessels) were seen passing out from the discs. On pressing these lines the opacity disappeared, it being apparently due to a milky fluid inside the vessels.

Microscopic sections of many of the organs stained with perosmic acid and with Soudan No. iii. and hæmatein have been very kindly and very efficiently prepared for me by Dr Stuart MacDonald, to whom I am greatly indebted for the time and trouble which he has so freely given.

(*Drawings and Microscopic and other Preparations.*—A large number of microscopic sections were exhibited. Coloured drawings of several of them, which had been made with his well-known artistic talent by Mr Richard Muir, were passed round, especial attention being directed to the drawings representing the retina and to those of the blood taken from the patient twenty hours before death.

PLATE II

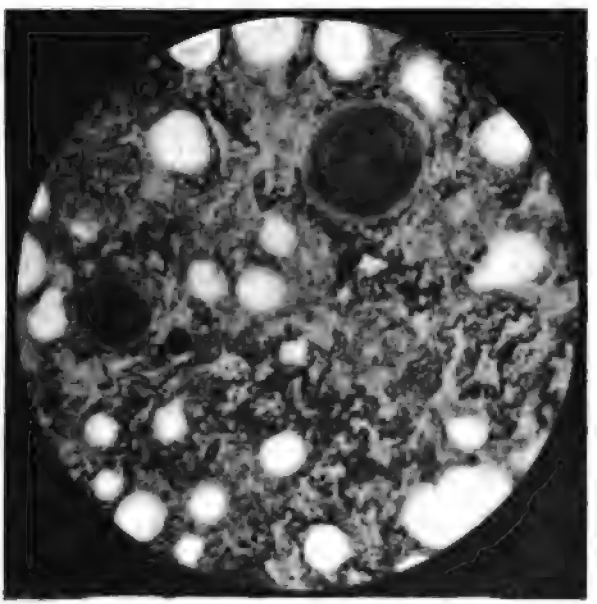
Fig 1

Fig 2.

Lantern slides of a few of the microscopic sections were also shown.

The following are the more conspicuous of the microscopic changes in the various organs and structures :—

Lungs.—In sections stained with perosmic acid, with hæmatein and Soudan No. iii., and with hæmatein and eosin, all the blood vessels are found to contain a large quantity of fat in the form of minute droplets, which in the larger vessels



Section of Lung treated with Perosmic Acid.

are sometimes aggregated together so as to constitute homogeneous-like masses, in which, however, the minute droplets composing them are in many instances distinguishable on careful focussing. The alveolar capillaries are dilated, and in some places the walls have ruptured, setting free the fat, which again has been taken up by the endothelial cells.

In a preparation in which the fat had been dissolved out, emphysema, collapse and some proliferation of endothelial cells, with exudation into the alveoli, are found to be present, the latter indicating a probable early broncho-pneumonic change.

Liver.—Sections of the liver, stained with hæmatein and Soudan, show also that all the blood-vessels are filled with fat droplets. Well marked fatty degeneration is exhibited, especially at the periphery of the lobules (Plate III., fig. 2).

Kidney.—Here also staining with hæmatein and Soudan reveals an enormous quantity of fat droplets in all the blood-vessels, as well as distinct fatty change of the epithelium of the convoluted tubules, and, to a less degree, of the epithelium of the collecting tubules. Cloudy swelling of the convoluted tubules is also manifest (Plate III., fig. 3).

Supra-Renal Bodies.—In the deeper parts of the cortex some brownish pigment is seen, which is apparently free from iron; otherwise the structures are healthy.

Pancreas.—The sections were found to stain imperfectly with hæmatein and Soudan, and apparently post-mortem change was present. In certain cases the cells contain a similar pigment to that present in the supra-renals. No special change can be observed in the Islands of Langerhans. The ducts are perhaps slightly thickened, but there is no general fibrosis.

Thyroid.—No abnormality was discovered.

Heart.—The blood-vessels are plugged with fat, as elsewhere in the body, and there is moderate fatty degeneration of the myocardium.

Retina.—The blood-vessels are also plugged with fat globules, and there is no special thickening of the vessel walls (Plate II., fig. 2).

One conspicuous feature is made manifest in all of these microscopic preparations, and that is that while relatively unimportant changes are revealed in the structure of the organs and in solid tissues (namely, congestion in nearly all of them and moderate fatty degeneration in a few of them), the blood throughout all parts of the body had undergone a profound change. While still well provided with red cells and hæmoglobin, and containing more than its usual complement of leucocytes, there was present in it, in addition, a large and even enormous quantity of fat in the form of minute droplets and globules.

Many samples of the contents of the heart, blood-vessels and serous cavities were obtained at the *sectio* and were preserved,

PLATE III

Fig 1

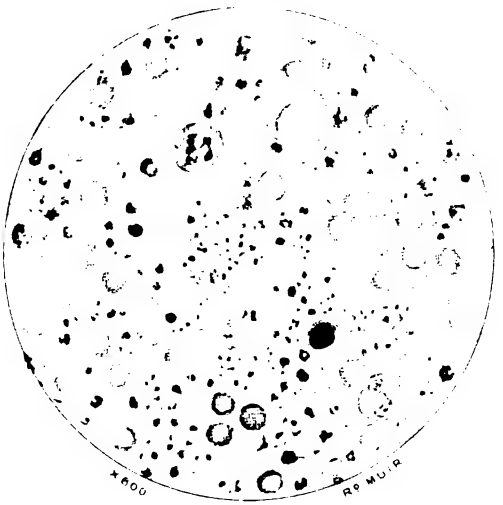
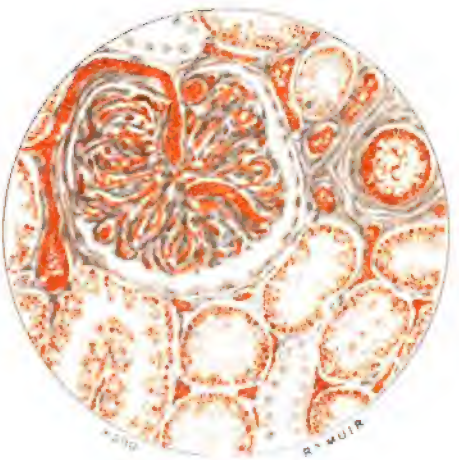


Fig 2

Fig. 3



with the addition of toluol, in bottles with sealed stoppers, for subsequent examination and chemical analysis.

A portion of the fluid contained in the heart was carefully removed and placed in a cylindrical bottle, to which a little toluol was added, and the stopper then sealed. When examined, a few days afterwards, this fluid had coagulated into a firm mass, two and six-eighths inches in height, which was readily divisible from its appearance into two parts: the lower being one and five-eighths of an inch in height, and of a very dark purplish-red colour; and the upper, one and one-eighth inch in height, and of a pale reddish-brown colour, and exhibiting at its lowest part a creamy white layer, one-eighth of an inch in thickness (see Plate I., fig. 2, reduced one-half).

Other portions of fluid, which were taken, however, with less care from the heart, blood-vessels and serous cavities, soon formed coagula, showing in all cases both a dark and a light coloured material. The differentiation between them was not generally so sharply marked as in the first described specimen, but in some of the specimens, as in those taken from the pericardial and pleural cavities, the quantity of the light coloured material was even larger than in the fluid from the heart. For instance, the substance removed from the pericardium became a soft coagulum, all of which was of a creamy colour, with a faint red tint at the lowest part; while in three specimens of the material removed from the pleural cavity, the light coloured portion amounted to three-fifths of the whole. Further, when the latter were again examined a few weeks afterwards, it was found that the light coloured upper portion of each specimen appeared to have increased in amount, as it then occupied about five-sixths of the total coagulum; but it is uncertain whether this represented an actual increase or a subsequent greater separation.

Eight months after the death of the patient, a quantitative estimation of the fat in the fluid removed from the femoral artery was made in my laboratory by Dr Sillar, with the result that the percentage amount was found to be so high as 16·44.

An analysis made at the same time of the fluid removed from the pleural cavity—which for the most part seemed to consist of a transudation into that cavity mixed, no doubt, with a little blood from the vessels divided during the *sectio*—

showed that it contained the still larger quantity of 18·94 per cent. of fat. This greater abundance of fat is in accordance with the appearance already described of the fluid removed from the pleural cavity, in which the fat layer was obviously thicker than that in the blood taken from the femoral artery. It is probable that even this very large percentage understates the quantity of fat that was present, as, at the time when the substance was analysed, it still contained a small quantity of the toluol which had been added to prevent decomposition.

Bearing upon the difference between the quantity of fat in the blood and in the serous cavities, and upon the view I have advanced that the fluid in these cavities consisted mainly of an exudation, it is of interest to note that in a case described by Bernard Fischer, afterwards again referred to, analysis of the blood showed that while the blood-clot contained 10·27 per cent. of fat, the blood-serum contained so much as 23·3 per cent.

It is only necessary to compare these percentages of 16·44 and 18·94 with the 0·16 to 0·325 per cent. of fat present in healthy blood, according to the numerous analyses of Becquerel and Rodier, and with the closely corresponding percentages of 0·18 to 0·21 per cent., found by C. Schmidt,[1] and of 0·2 to 0·5 per cent. found by Röhrig,[2] in the blood of patients suffering from the ordinary uncomplicated type of diabetes, to appreciate how large was the amount of fat in the blood of this patient.

Blood taken from the aorta of my former case of diabetic lipæmia, of which an account was published by Dr Logan and myself in 1882,[3] was also recently analysed for me by Dr Sillar, with the result that it was found to contain 12·6 per cent. of fat. It may be explained that this blood had been collected at the post-mortem examination made on the 10th of April 1881, and, after having been mixed with an equal volume of alcohol, had been preserved in a sealed bottle since that time.

Comparing these results with those of Gamgee[4] and Fischer,[5] and of other observers quoted by Senator,[6] Fuchter,[7] V. P. le Gendre,[8] and by Fischer in a recently published paper on Lipæmia and Cholesteræmia in Diabetes Mellitus, it would appear that both in the present and in the

former of my cases the percentage of fat is exceptionally large, and has apparently been equalled in only one other case. In the very small number of instances in which the blood has been chemically analysed in cases of diabetic lipæmia, the quantity of fat most usually recorded has varied between the wide extremes of 1·3 to 11·7 per cent., the greater number having been much nearer the smaller than the larger of these extremes. The one case in which the quantity was so large as in my cases is that described only last month by Fischer himself, in which he found 18·129 per cent. of fat in the blood removed at the post-mortem examination from the transverse sinus (cranial ?) of a well-marked case of diabetic lipæmia.

The occurrence of an excess of fat in diabetes mellitus is stated by Naunyn [9] to have been noticed so long ago as 1799 by Mariet, of Edinburgh. Dobson and Rollo [10] subsequently confirmed this observation, and it has more recently been repeated by many observers such as Marsh, Hutchison, Elliotson, Thomson, Kussmaul, Traill, and Lecanu.[11] The subject, however, received but little attention until Sanders and Hamilton made their important communication to this Society in 1879, on "Lipæmia and Fat Embolism in the Fatal Dyspnœa and Coma of Diabetes."[12] In this communication, the authors elaborately described the post-mortem evidences of great fat accumulation in the blood-vessels, observed at the post-mortem examination of a fatal case of diabetic coma; and they explained the terminal coma and dyspnœa which occurred in their case as resulting from fat embolism of the cerebral and pulmonary blood-vessels. They advanced the view that the symptoms of so-called acetonæmia in diabetes were caused not by auto-toxication produced by acetone or by some unknown toxic substance, but by the primarily mechanical effects which result from the presence of an excessive quantity of fat in the blood.

Sanders and Hamilton's embolic theory of the production of diabetic acetonæmia has, however, failed to find general acceptance, and it has been discarded by all recent writers on the subject, such as Coates,[13] Gamgee,[14] Osler,[15] Lecorché,[16] Saundby,[17] and Rickards.[18] Objections to its acceptance have mainly been based on the circumstance that diabetic

coma and dyspnœa are of frequent occurrence in the absence of any evidence of lipæmia, and also that even in diabetic lipæmia the post-mortem examination does not reveal any embolus in the lungs or elsewhere.

Lecorché, indeed, has gone so far as to attribute the appearance of fat or collections of fat in the blood-vessels to a post-mortem and not to an ante-mortem change.[19] Although Sanders and Hamilton and previous observers had not adduced any satisfactory evidence in opposition to this criticism, it was shown to be groundless in the case of diabetic lipæmia which I described before this Society in 1882, in which it was found that blood removed from the patient about twenty-four hours before death was creamy pink in appearance, and displayed under the microscope an immense number of extremely minute refractile bodies, which became dark green and afterwards black on the addition of perosmic acid. This observation has been abundantly confirmed in the present case, and also in the case recorded by Dr Starr, in which, while the patient was alive, the retinal arteries and veins were found to be of a light salmon colour[20]; in a carefully described case by Dr Glynn of Liverpool (1890)[21]; and in the report of a non-fatal case published in the Journal of the American Medical Association by Dr Fuchter (1899).[22]

It does not appear, indeed, that the presence of an abundance of fat in the blood materially modifies the well-known and striking phenomena of diabetic coma, either in respect to the respiratory or the cerebral symptoms. The remarkable appearance after death of blood-vessels in all parts of the body plugged with a white solid or semi-solid matter, reproducing the aspect of an injection with wax or with plaster of Paris, is eminently suggestive of embolus or thrombosis, and of an explanation of the symptoms by the presence of this abnormal substance in the blood vessels. It is to be remembered, however, that the fat droplets are of so minute size that they may not only pass through the finest ramification of the capillary system, but may even transude like serum into the cavities of the body, such as the pleura and pericardium, and also that during life this fat retains a perfect liquidity and mobility, as it has a melting point of about 77° F., and, therefore, one much below the temperature of the body.

Lipæmia must therefore be regarded as an incidental circumstance occurring in the course of diabetes, and due to some chemical change additional to the chemical changes which are productive of the substances by which the symptoms of diabetic coma are produced. As to these latter substances, it appears now to be clearly established that they are mainly acid bodies, that both the coma and dyspnœa of so-called "acetonæmia" are in reality the manifestations of an acid intoxication or acidosis, and that in all probability the most important of the several acids which produces this acidosis are β-oxybutyric acid and β-amido-butyric acid.

The investigations of Magnus Levy [23] and Sternberg [24] have shown that the typical phenomena of diabetic coma may be produced in animals by administering these acids to them. Magnus Levy has also found that 20-30 grammes of β-oxybutyric acid may be separated from the urine passed by diabetic patients in twenty-four hours, and he has estimated that so much as 100 or even 200 grammes may be present in the body of a patient who has died from diabetic coma.

There is no definite information regarding the production in the body of these acids, but it is well-known that they may be derived from hydrocarbons.[25]

In the case of diabetic lipæmia which I have to-night described, it was ascertained even before any symptom of dyspnœa or coma had appeared that the alkalinity of the blood had become reduced; and urine and blood removed from the body after death and examined for me by Dr Milroy, now Professor of Physiology at Belfast, were found to contain considerable quantities of β-oxybutyric acid.

Considering, in the next place, the origin of the fat in diabetic lipæmia, in the absence of any real knowledge, it was not regarded as superfluous to determine if this fat could originate from any action exerted by β-oxybutyric acid in blood containing sugar. To test this possibility, several *in vitro* experiments were made for me by Dr Carmichael, one of my assistants, in which various mixtures of fresh healthy blood, glucose and β-oxybutyric acid, and, for controls, of healthy blood and this acid only, were digested for several hours at the body temperature. The results were entirely negative. No

development of fat occurred, nor did the red blood-corpuscles become disorganised or modified in shape.

It has been suggested that the fat normally present in the blood is there subjected to a process of decomposition and is thus being constantly disposed of and removed.[26] Defect in this process might be conceived of, which would result in an accumulation of fat in the blood. The suggestion of this lipolysis is, however, a purely hypothetical one. No fat ferment has been identified, but it has been supposed that the lipolysis might be produced by the white blood-corpuscles. The case under consideration gives, however, no support to the hypothesis, for the white cells, at the time when lipæmia was present, were seen to be healthy and in excessive rather than diminished number, there being leucocytosis and not leucopœnia.

It has already been stated that in my case the fat in the blood was not a manifestation of a general or universal fatty change or steatosis. Fatty degeneration was present in only a few of the structures of the body and especially in the liver, kidney and myocardium, but was present in these structures only in moderate amount. On the other hand, the blood in all parts of the body, in arteries, veins and capillaries, contained it in great abundance. It was diffused generally and abundantly throughout the whole of the vascular system; while, at the same time, the blood itself retained its normal or nearly normal percentage of hæmoglobin and red cells, and even possessed an abnormally large percentage of leucocytes. The fat could not, therefore, have been derived from any of these constituents of the blood, any more than from the organs and structures of the body.

Having, probably, an important bearing on the explanation of the origin of the fat in the blood is the circumstance, observed in this as well as in the former case which I have described, and in cases inscribed by other observers, that coincidently or nearly coincidently with the appearance of the coma and the lipæmia, a marked reduction occurred in the quantity of sugar eliminated in the urine. The patient died on the 7th of July, rather less than two days after the onset of respiratory and cerebral symptoms, and while, on the 5th of July, the quantity of sugar eliminated was 22·8 grains per ounce of urine or a total of 3283 grains, it had fallen on the

6th of July, when 120 ounces were collected, to 10·6 grains per ounce, or a total quantity of 1272 grains in the twenty-four hours; while after death, urine drawn from the bladder on the 7th of July, was found to contain only 2·5 grains of sugar per ounce. At the same time, the large quantity of urine passed on the 6th of July, as well as the slight pathological changes found in the kidneys at the post-mortem examination, show that the abrupt fall in the quantity of sugar in the urine could not be explained by any important impairment of the excretory function of the kidneys.

It appears, therefore, to be strongly suggested that the sugar in the blood had on the 5th or 6th of July commenced to undergo chemical transformations in a greater degree or of other kinds than were previously proceeding, and that the results of these transformations were not only an enhanced production of β-oxybutyric and other acids, by which the onset of the first symptoms of dyspnœa and mental disability is to be explained, but also a larger and even enormous production of fat whose abundant presence in the blood was demonstrated during life both in this case, and for the first time, in the case I had previously described.[1]

Further and convincing evidence in favour of the origin of the fat in the blood would be derived from a chemical examination of the blood for sugar. This has been made for me by Dr Sillar, with blood obtained at the post-mortem examination and preserved as far as possible from decomposition by the addition to it of toluol, but unfortunately, not until several months after the blood had been obtained. Two samples of this blood, one taken from the heart and the other from the pleural cavity, were analysed on the plan described in Professor Gamgee's "Physiological Chemistry"; and the result was that in neither specimen was any sugar found.

A similar analysis was made of blood obtained after death in my former case (Macintosh), and preserved by the addition of an equal bulk of absolute alcohol; and in this blood, also, no sugar was found.

It would, no doubt, have been more satisfactory if the blood

[1] The conversion of sugar into fat is a well-recognised physiological process, exemplified, as Halliburton [27] points out, in the formation of the bees'-wax from sugar, and indicated by the production of fatty acids from starches and sugars.

of these two patients had been analysed at a shorter interval of time after it had been obtained, but considering that the specimens had been kept in sealed vessels, in contact with an abundance of antiseptic fluids, and that they had been obtained from patients who a few days before their collection had been eliminating very large quantities of glucose, the fact that no glucose was present in any of the specimens appears to indicate that, at least, a great diminution in the quantity of glucose in the blood occurs when pronounced lipæmia is produced. In connection with this, it may be added that urine taken from the bladder of this patient (Hills) during the post-mortem examination and kept after the addition of a little toluol, in a loosely covered glass cylinder, gave abundant evidence of the presence of sugar, when chemically examined seven months after it had been obtained.

The several considerations I have brought forward seem collectively to afford strong evidence in favour of the view that in diabetics the sugar in the blood may, by causes which are not known and by processes which cannot at present be explained, abruptly undergo more rapid and more abundant chemical transformations than were previously occurring, with the result, in a considerable number of cases, of a sufficient acidosis to produce the peculiar intoxication which is distinguished as acetonæmia, and, in a small number of cases, of the formation also of a large quantity of fat in the blood,[1] constituting the condition of diabetic lipæmia. It is not improbable that in accordance with the amount of this fat in the blood, the solvent capacity of the serum for oxygen would become reduced and that thereby the death-producing power of the existing acidosis would be reinforced.

In considering the treatment of diabetic coma and lipæmia, it is to be borne in mind that both acidosis and lipæmia may be developed in diabetes and may be recovered from. The former has been several times observed, and I have had under my care a case in which excess of fat in the blood was demonstrated by microscopic examination and afterwards disappeared under treatment.

If the fatty transformation be due to a special fat originating

[1] This explanation of the source of the fat in the blood appears to have been first suggested by Dr Coote.[28]

ferment, treatment with antifermentative substances would be indicated; but the basis for this explanation and, therefore, for the related treatment is as yet wanting.

If the fatty transformation be merely a modification of the chemical changes in glucose which result in acidosis, an alkaline treatment is indicated. This was adopted in the case I have described. The result, however, was not successful. One cause of failure may have been an insufficiency in the quantity of alkali which was administered in view of the enormous amounts of β-oxybutyric acid which have been found in cases of diabetic coma. Another cause may have been that before the treatment had been adopted so large an amount of fat and of acids had been elaborated that no quantity of alkali which could be administered was sufficient to neutralise the acid and check the chemical transformations.

It would undoubtedly be advisable to commence the administration of alkalies, in large quantities, even before the onset of the symptoms of diabetic coma, and if possible, on the earliest indication of the production of β-oxybutyric acid and of excess of fat in the blood. The former production could be ascertained by examination of the urine, and the latter by examination of the blood. In the case of the patient who has formed the subject of my communication to-night, an examination of the blood made several weeks before the appearance of diabetic coma showed that the blood already contained a superabundance of fat, and indicated that in such cases the grave danger of coma with lipæmia might be anticipated for some considerable time before any symptoms of this tragic complication had appeared.

It is therefore suggested that in patients suffering from diabetes and especially in patients in the earlier ages of life, and who, therefore, notwithstanding a condition of apparently satisfactory health, have truly been said by Frerichs to be living on the verge of a precipice, the urine and blood should be examined at intervals of one or two weeks for β-oxybutyric acid and fat respectively, so that the earliest warnings of danger may be obtained and the earliest opportunity afforded for treatment by a liberal administration of alkalies.

Description of Plates.

PLATE I.

Fig. 1. Surface of Brain. Large extents of the blood-vessels are seen to be occupied with a nearly white substance (fat), as if injected with wax or plaster of Paris. Natural size.

Fig. 2. Blood removed at the *sectio* from the interior of the heart, and placed with some toluol in a sealed bottle by Dr Beattie, one of the Pathologists to the Royal Infirmary. A large quantity of slightly blood-stained fat has separated itself, and occupies the upper part of the blood clot. Figure reduced to one-half of actual size.

PLATE II.

Fig. 1. Fundus of the Eye as seen after death. Blood-vessels pale, and in some respects resembling those of the brain.

Fig. 2. Magnified view of a portion of the teased-out Retina, stained with hæmatein and Soudan No. iii. Great fat accumulation in a blood-vessel and its branches. No special thickening of the vessel walls. × 200.

PLATE III.

Fig. 1. Blood taken from the patient during life. Stained with hæmatein and Soudan No. iii. Great abundance of yellow-stained fat globules and droplets. Several polymorphonuclear leucocytes. Some of the large mononuclear leucocytes contain oil droplets, suggesting phagocytic inclusion. The red blood-corpuscles appear to be healthy. No foreign matter seen in the field but that which gives a fat reaction. × 600.

Fig. 2. Section of the Liver, stained with hæmatein and Soudan No. iii. The blood-vessels, veins as well as arteries, appear as if injected with fat in the form of minute droplets. Distinct fatty degeneration of the liver cells, especially at the periphery of the lobules. × 200. (Drawing reduced to two-thirds.)

Fig. 3. Section of the Kidney, stained with hæmatein and Soudan No. iii. Abundance of fat in the blood-vessels and capillaries of the glomerulus. Distinct fatty degeneration, with swelling of the epithelium of the convoluted (secretory) tubules, but very slight change in the collecting tubules. × 200. (Drawing reduced to two-thirds.)

References.

1. Gamgee's "Text-Book of the Physiological Chemistry of the Animal Body," vol. i., 1880, p. 172.
2. *Abhandlung. d. Math.-phys. Cl. d. K. Sächs. Gesellsch. d. Wissensch.*, 1874, p. 1.
3. *Edinburgh Medical Journal*, vol. xxviii., 1882, pp. 199-205.
4. *Loc. cit.*, p. 172.
5. Virchow's *Archiv.*, Bd. 172, Hft. 1, April 1903, p. 30.

6. Ziemssen's "Cyclopædia of the Practice of Medicine," vol. xvi., 1878, p. 891.
7. *Journal of the American Medical Association*, vol. xxxiii., 1899, p. 1008.
8. Charcot's and Bouchard's "Traité de Médecine," T. i., 1891, p. 399.
9. "Der Diabetes Mellitus," 1898, p. 239.
10. Senator, *loc. cit.*, p. 890.
11. Fuchter, *loc. cit.*
12. *Edinburgh Medical Journal*, vol. xxv., 1879, pp. 47-57.
13. "A Manual of Pathology," 1900, p. 277.
14. *Loc. cit.*, p. 171.
15. "The Principles and Practice of Medicine," 1901, p. 426.
16. "La Diabète Sucré chez la femme," 1886, pp. 260, 261.
17. "Lectures on Diabetes," 1891, p. 146.
18. *The Birmingham Medical Review*, vol. xi., 1882, pp. 272 and 273.
19. *Loc. cit.*, p. 261.
20. See Pepper's "System of Practical Medicine," vol. ii., 1885, p. 207.
21. *The Liverpool Medico-Chirurgical Journal*, vol. 10, 1890, pp. 247-253.
22. *Loc. cit.*, p. 1007.
23. *Archiv. für experimentelle Pathologie und Pharmakologie*, Bd. xli., 1899, and Bd. xlv., 1901.
24. Virchow's *Archiv.*, Bd. clii., 1898.
25. Halliburton's "Text-Book of Chemical Physiology and Pathology," 1891, pp. 65, 103, 833.
26. Gautier, "Leçons de Chimie Biologique," 1897, p. 763.
27. *Loc. cit.*, p. 837; Miller's "Chemistry," vol. iii., p. 738.
28. *The Lancet*, 1860, vol. ii., pp. 232 and 258; also Coates, *The Glasgow Medical Journal*, vol. xxxii., 1889, p. 100.

NOTE ON SOME EXPERIMENTS WITH PROFESSOR DUNBAR'S HAY FEVER ANTITOXIN SERUM

By PHILIP G. BORROWMAN, M.D.,
Crieff

MY attention was first called to this remedy by Sir Felix Semon's paper in the *British Medical Journal* of 28th March last. The observations recorded by him then, and in his subsequent article of 18th April, were sufficiently encouraging to make me desirous of trying the remedy during the hay fever season. As I suffer very severely from hay fever and asthma every summer, any remedy which seems to hold out a reasonable probability of giving relief is of special interest to me.

Hay fever is an affection on which it is extremely difficult

to make accurate observations as regards the effect of treatment, for the condition of the patient and the severity of the symptoms vary greatly from hour to hour, and even from minute to minute, without any apparent change in the external conditions; and one is very apt to give to the remedy used the credit of any improvement which may occur after its administration, although it may have nothing to do with such improvement. It is only by comparing the results obtained by many observers that one can come to any satisfactory conclusion as to the value of this treatment. This is my reason for putting on record the following observations.

My impressions of the efficiency of the serum when instilled into the eyes are practically the same as those of Sir Felix Semon, recorded in the *British Medical Journal* of 18th July (p. 124). In almost every instance in which I have used it in this way it at once relieved the conjunctival irritation, and, I think, lengthened the interval between the attacks, but of this it is very difficult to be sure.

In addition, however, to instillation, I tried hypodermic injections on myself in the hope that they might cause some degree of immunity, and so prevent the attacks coming on; and I am inclined to think that they did so, for I have had very little hay fever this summer compared with what I have been accustomed to in past years. But while I have had little hay fever (affecting the eyes and nose), I have had just about my ordinary amount of asthma—perhaps not quite such severe paroxysms, but fewer intermissions than in former years.

The principal objection to the hypodermic use of the serum is the local irritation caused by the injection. After a variable time swelling appears round the puncture, with redness, tenderness and considerable itching; and this lasts for several days. This unpleasant effect increases with repeated injections. After my last injection my arm was much swollen from the elbow to the wrist, hard, red and tender, and extremely itchy. This lasted for six days and gradually passed off.

The details of the experiments were as follows :—

CASE I. Hay fever firmly established, affecting both eyes and nostrils.

27th June.—ℳi of the serum instilled into each eye, and ℳii into the right nostril. Within two minutes the irritation

was almost completely relieved, though the conjunctivæ were still bloodshot. In about ten minutes, however, the irritation began to return. The treatment could not be continued in this case, as the patient's husband, a medical man, wished to give a thorough trial to another remedy.

CASE II. Spent the first part of the hay fever season yachting, and so escaped. When I saw him after his return the hay fever had got a pretty firm hold of him. On the 2nd July I instilled ℥i of the serum into his left eye, which was the worst. The irritation was at once relieved. I then injected ℥iv into his right forearm. The conjunctival irritation did not return for three and a half hours, and even when it did return it was not so bad as usual. There was no local irritation from the injection.

4th July.—℥x of the serum injected into the forearm. This gave rise to considerable irritation at the seat of puncture, but the hay fever hardly troubled him—a most unusual experience for him at this time of year.

8th July.—℥xii of the serum injected into the forearm, which caused a good deal of local irritation. He went from home for two days, during which he had bad hay fever, as he always does if he travels by rail during the hay fever season.

11th July.—On his return he was suffering rather badly in both eyes. I therefore instilled ℥i of the serum into each eye, which gave relief at once. I then gave him a supply of the serum with a pipette, as supplied by the makers, and told him to put one drop into each eye as soon as the irritation came on. This enabled him to pass the rest of the season in comparative comfort.

His opinion of the serum is that it is much better than a solution of cocain (2 per cent.) which previously he had found to be the most satisfactory treatment.

CASE III. *Myself.*—First attack of hay fever this season was on the 11th June. At 12.40 P.M. the irritation in my eyes was getting bad. At 12.42 I instilled ℥i of the serum into the outer canthus of my right eye, which is always the worst. At 12.45 the irritation was gone.

12th June.—2.50 P.M. I rubbed ℥i of the serum into my right nostril, which was in a state of catarrh. No improve-

ment was perceptible. In the evening a herpetic eruption appeared on the right ala nasi—"Post hoc, ergo propter hoc!"

13th June.—12.25 P.M. Hay fever in both eyes, but specially the right. ℥i of the serum instilled into right eye. 12.27, irritation gone.

14th June.—Fairly well all day.

15th June.—12.15 P.M. Sneezing continuously; right eye pouring with water, and very itchy. 12.17. ℥i instilled into right eye. 12.18. Sneezing stopped. 12.20. Tears stopped; conjunctiva still irritated. 1 P.M. Eye still bloodshot and itchy, but not so bad as it was, though I had been out in clouds of dust for half an hour.

20th June.—From last entry till this date I had slight asthma pretty continuously, but hardly any hay fever, and so did not use the serum. On this day (20th) I had a bad attack of hay fever, affecting both eyes and both nostrils. At 12.34 I instilled ℥i of the serum into the right eye; nothing into the left eye nor the nostrils. 12.37. The irritation in *both* eyes was better. Nose still blocked and catarrhal. This gradually cleared up in the afternoon.

21st June.—Sunday. Hay fever and asthma. Eyes not bad, but nose running. 10.24 A.M. ℥i instilled into right nostril. 10.32. No perceptible improvement. 10.35. Copious watery discharge from both nostrils, specially the right, with desire to sneeze. 10.36. Watery discharge dropping from right nostril—about one drop per second. At 10.38 this stopped, but still inclination to sneeze and blow my nose frequently. 10.41. Asthma better. Left nostril all right; right nostril still irritable and discharging. 2.50. Nostrils have been discharging all day. Eyes not bad, but nose sore and raw from constant watery discharge. 2.57 P.M. Injected ℥iii of the serum hypodermically into my left forearm. 2.58. Itching at site of puncture. 3 P.M. Pappule (not coloured) at site of puncture, $\frac{1}{8}$ inch across, $\frac{1}{16}$ inch high. 3.7 P.M. Itching nearly gone from forearm. No difference in hay fever. 3.12. Itching of right eye suddenly came on. 3.15. Itching also of left eye—both eyes pretty bad. 3.25. Eyes better, but still irritable. 7 P.M. Irritation at seat of puncture has disappeared. Hay fever and asthma still pretty bad.

22nd June.—Hay fever certainly better, but asthma bad all day—also bad headache.

23rd and 24th June.—Hay fever very slight, but asthma bad all day and at night.

25th June.—Same as yesterday. For the last three days there has been occasional itching at the seat of puncture. 12.32 P.M. Injected ℥v of the serum into left forearm. No immediate results perceptible. In afternoon and evening asthma rather less. No hay fever. No irritation at seat of puncture. 11 P.M. Acute irritation in right eye, which passed off during sleep.

26th June.—Hardly any hay fever, but asthma pretty bad. It has been continuous all the week. 11.55 A.M. Injected ℥xv of the serum into left forearm. No hay fever all day.

27th June.—A little hay fever in both eyes for a short time. Erythema and itching of whole of left forearm.

1st July.—No hay fever since last entry till this date. After driving among hay fields I had bad hay fever in right eye—left eye not so bad—nostrils also affected but not very badly. Got home at 11.45 A.M. and at 11.50 I instilled ℥ii of the serum into right eye. 11.53. Irritation much less in right eye—left eye and nostrils unchanged. 12.20. Injected ℥xv into left forearm. 12.40. Eyes and nose quite well. In the evening I had bad asthma, and a little hay fever but not acute.

2nd July.—Asthma bad, day and night—no hay fever.

3rd July.—Asthma still bad—no hay fever.

4th July.—Asthma much better but not gone—bad attack of hay fever in both eyes and nose. 12.10. Instilled ℥i serum into right eye. 12.12. Instilled ℥i of a 5 per cent. solution of Eucain (β) into left eye. 12.20. Left eye quite well—right eye no better. 12.35. Right eye better but still irritated—left eye quite well. Afternoon, left eye remained well, right eye slight irritation. (The right eye was very much worse than the left to begin with.)

4th, 5th and 6th July.—Practically no hay fever—asthma still troublesome.

7th July.—After exposure to much pollen, had sharp attack of hay fever in both eyes and nose—right eye worst. 11.50 A.M. Instilled ℥i serum into right eye. 12 noon, dis-

tinctly better. 12.15. Eyes all right, nostrils still uncomfortable. The right eye did *not* get better sooner than the left.

10th July.—Practically no hay fever since last entry. Asthma getting better, but still troublesome in the evenings.

11th July.—Asthma better, no hay fever.

12th July.—Eyes and nostrils slightly affected. 10 A.M. Injected ♏x of the serum into left forearm. Afternoon, hay fever practically well. Arm swollen, red and tender.

13th July.—Very slight hay fever—no asthma—arm much swollen, red, painful and very itchy.

14th July.—No hay fever, asthma pretty bad. Arm rather less painful.

15th July.—Irritation in arm very slight—no hay fever—asthma troublesome.

16th July.—Bad asthma. Itching in arm very bad.

17th July.—Asthma better.

18th July.—Asthma much better—arm also better, but still swollen and very itchy.

19th to 29th July.—Asthma pretty continuous—no hay fever—irritation in arm gone.

30th July.—Asthma almost quite gone, no hay fever, no irritation in arm.

DIABETES IN THE LIGHT OF MODERN PHYSIOLOGY

("Glykogen," von E. PFLÜGER, *Arch. f. die ges. Physiologie*, Bd. 96, Hft. 1 bis 8, 1903)

By D. NOËL PATON, M.D.

A FAMOUS professor in Strasburg was once heard devoutly to thank God that he had never been induced to study diabetes; and many who, fascinated by the mystery of the condition, have given time and energy in vain to its elucidation, must have wished that they too had been preserved from the temptation.

The latest exponent of the disease is Professor Pflüger of Bonn, perhaps the most distinguished physiologist of the day, whose extensive and accurate series of investigations upon glycogen and upon general metabolism warrant him in speaking with authority upon the subject. As a result of a prolonged critical and experimental study of glycogenesis in the animal body, he now formulates a theory of diabetes which has the great merit of simplicity and clearness. This he develops in a

paper of 394 pages, entitled "Glykogen," Pflüger's *Arch.*, vol. xcvi., sections 1 to 8, 1903.

The earlier parts of the paper are of interest chiefly to the physiologist and the physiological chemist, dealing as they do with the history of the discovery of glycogen, the methods of analysis, and the distribution of glycogen in the animal body. It is not till the fourth chapter, p. 166, is reached, that matter of interest to the physician is touched upon. Here he adduces evidence that carbohydrates are the sole source of glycogen, whether the carbohydrate is in the free condition or linked to proteids in the glyco-proteid molecule. The evidence of various investigators, who have endeavoured to show that proteids are a source of glycogen, is subjected to an elaborate and destructive criticism, while an examination of the small amount of work done upon the possibility of fat being a source of the carbohydrates of the body, leads the author to the conclusion that the evidence does not prove the contention.

Chapter iv., p. 296, is the most important in the paper. It is divided into two parts: first, "On the breaking down of Glycogen"; and, second, "On Diabetes."

In the first section, the author begins by maintaining that the conversion of glycogen to sugar is due to a zymin.

His examination of the evidence on this point is not convincing. He quotes ample authority for the belief that the transference can take place in the dead liver by such a zymin, but he does not seem to give full consideration to the possibility of the conversion during life being due to some other mechanism. Not only does he omit all consideration of the curiously different action of chloroform on the early rapid post-mortem change which it accelerates, and the later slower change which it does not influence, but he also ignores the greater part of Cavazzani's work. This investigator showed that, when the conversion of glycogen to sugar was increased by stimulation of nerves, there was no increase in the diastatic enzyme in the blood leaving the liver. And he further demonstrated that the injection of methyl violet, which does not diminish the activity of diastatic enzyme, checks the post-mortem conversion of glycogen apparently by the action of the substance on the liver protoplasm.

Until Pflüger deals with such evidence more fully, his conclusion, "That the glycogen of the liver is converted to dextrose by a fermentation may be accepted as an established fact," seems unwarranted.

He then gives a most lucid description of the influence of the nervous system on the formation of sugar in the liver, showing that the outgoing channels of the nerve impulses in Bernard's

diabetic puncture are in the splanchnic nerves, and that these may be reflexly excited through many different afferent nerves. He shows that it is certain that diabetes may be caused through nerve stimulation from the most different provinces of the nervous system.

He asks, "What is the physiological meaning of this?" and explains how, by such a nervous mechanism, the various parts of the body can call upon the liver for a supply of sugar as it is required by them. Further, as in the regulation of the work of the heart two antagonistic nervous mechanisms are present, of which the one increases the work, the other diminishes it, so it appears that, for the regulation of the amount of sugar in the blood, two antagonistically working influences are in operation.

Thus pancreatic diabetes is most naturally explained on the theory that the increased amount of sugar in the blood causes the secretion of a substance in the pancreas which decreases sugar production in the liver—either by acting on the sugar centre in the medulla or on the substance of the liver cells themselves.

The only serious flaw in this conception of the physiology of the regulation of the supply of sugar to the body, seems to be the too ready acceptance, without sufficient evidence, of the operation of a diastatic enzyme in the liver, and the consequently necessary assumption, without any evidence, that the pancreas yields an antidiastase. We do know that the pancreas yields something which probably checks the formation of sugar in the liver, or possibly inhibits its use in the tissue, and its action on the liver is just as readily explained, if, without invoking the action of a diastase, we accept the evidence of a direct influence of the nerves upon the liver protoplasm to cause the change from glycogen to glucose, and if we simply suppose that the pancreas forms a substance—acting, let us say, like atropin on a secreting gland—to prevent this conversion.

In the consideration of the exchange of carbohydrate between liver and blood, he attempts to explain the divergent results of physiologists, which have led to such endless discussion, as to whether there is any difference in the amount of sugar in the blood going to, and in the blood leaving the liver. He points out that when the supply of carbohydrate in the food is large there will be less sugar in the blood of the hepatic vein than in that of the portal vein. When the supply of carbohydrate is cut off there will be more; and hence, when the conditions are intermediate, as is frequently the case, the amount will be the same.

From a general consideration of the question, he comes to

the conclusion that the liver glycogen is changed to sugar, as that substance is required by the muscles. That sugar is taken from the blood by the muscles and used by them he considers as established, and he is thus unable to support the theories of Pavy as regards the fate of hepatic glycogen, or as regards the utilisation of blood sugar.

From the consideration of his own elaborate investigation, and from the work of others, he clearly shows the fallacious character of the teaching that the glycogen in muscle is the chief source of its energy.

The section on diabetes he heads with these words of Claude Bernard: "La découverte de la fonction glycogénique du foie a certainement donné la première base sur laquelle s'édifiera la théorie scientifique rationelle de cette maladie (du diabète) . . . ce qu'il faut aujourd'hui c'est une critique physiologique expérimentale sévère, car c'est la physiologie qui doit y éclairer la pathologie."

He first deals with the importance of Bernard's puncture in the explanation of diabetes, and maintains, although we think without sufficient evidence, that it acts by increasing the formation of the sugar-forming enzyme of the liver.

He next considers how the loss of power of the liver to form glycogen from the sugar of the food will also cause a glycosuria. He then discusses the question of whether in diabetes the power of using sugar in the tissues is lost. And here we think that his treatment of the question compares unfavourably with that of von Noorden ("Pathologie des Stoffwechsels," p. 386). He maintains that the evidence that sugar cannot be used is insufficient, but states that he does not deny that the power of using sugar may be diminished. Von Noorden, on the other hand, while admitting the unsatisfactory character of the evidence from the respiratory quotient, gives evidence which seems conclusively to prove that in diabetes the limitation to the power of using carbohydrates, which is found in every individual, is greatly increased.

Pflüger emphasises the well-known fact that in diabetes the tissues have not lost their power of forming glycogen, and he then deals at considerable length with the importance of the fact that sugars are naturally tied up in the tissues of the body in combination with various other substances, just as carbon dioxide may be tied up in varying proportions with sodium. He shows how this explains the fact that even after *all* carbohydrates are cut off from the food, the patient continues to pass sugar for at least some days, and how, when the urine has become free of sugar, the taking of sugar may not at first be

accompanied by a markedly increased excretion, because these combinations are again being formed.

Some recent work on the toxic action of sugar is alluded to, although Dr Scott's interesting observations showing that large doses of sugar markedly increase proteid metabolism, are not mentioned. Pflüger's conclusion is that the toxic results are purely secondary, and are not an integral part of the disease.

His remarks on phloridzin diabetes have no great interest to the clinician; but in the next two divisions of the paper he elaborates the central idea that a hyperzymosis or increased conversion of glycogen to sugar may be caused in the liver by the stimulation of many ingoing nerves, and that this is checked by the production of an antidiastate in the pancreas.

A very good account is given of the work which has been done on the effect of removing the pancreas in causing diabetes, and the evidence that it does so, not through the nervous system, but through the absence of something formed in the pancreas, is clearly and convincingly stated.

He is thus finally led to his general review of the subject, and this is so important that I shall venture to give a translation of a considerable part of it, as it appears to me to present an eminently useful and practical view of diabetes:—

"If my undoubtedly established theory of the antagonistic influences in the regulation of the amount of sugar in the blood is considered, all difficulties of explanation disappear. They consist in this, that very frequently in severe cases of diabetes the pancreas is not merely apparently but actually quite healthy.

"If the sugar production becomes excessive, whether through the influence of the afferent portion of the nervous system, or through the brain or spinal cord, or through continued stimulation directly affecting the liver cells, then the checking action of the antidiastase of the pancreas is not sufficient to maintain the normal balance; diabetes in spite of a healthy pancreas.

"If with a diseased pancreas which no longer produces any antidiastase the normal continuous reflexly-produced emptying of the liver of sugar goes on, the sugar accumulated in the blood since the normal check on the flow of sugar is absent.

"Another difficulty is found in this, that cases occur in which the whole tissue of the pancreas appears to be degenerated without the onset of diabetes. It is, however, obviously impossible to determine in the living subject if a certain number of cells, although diseased, are still able to perform their function. It is further credible that weakness of the general vital energy caused by carcinoma allows the sugar formation in the liver to fall so markedly that even without inhibition no diabetes ensues. There are also other possibilities.

"All the organs of our body stand in exchangeable relations with the liver, in order to regulate the requirements of their nourishment. These relationships are provided principally through the nervous system, but also through certain materials which are produced in special organs. A continuous play of forces and anti-forces determines a dynamic balance corresponding to health. In this way, as above explained, apparently innumerable substances have the power to produce glycosuria.

"It appears, therefore, conceivable that, through a disturbance of the metabolism in our body, a substance may originate which can cause glycosuria. Hans Leo sought to explain generally the occurrence of diabetes by such a substance. The diabetic puncture is, however, not to be explained in this way, and just as little is the pancreatic diabetes. The latter appears not to be explained by the presence, but by the absence of a substance. Acetone, indeed, circulates in the blood of a diabetic, and according to Ruschhaupt it causes glycosuria. This, however, is not fully confirmed by Franz Müller. Acetone is, however, the result and not the cause of the diabetes. It must, however, be observed that a substance which produces glycosuria in the healthy has, perhaps, an opposite action on the diabetic. Morphia causes glycosuria in the healthy and diminishes it in the diabetic. This puzzling fact at the first glance is explained simply when one takes into consideration that the regulation of sugar production in the liver, similarly to the heart beat, is maintained through augmenting and inhibiting forces. Morphia stimulates both kinds of force in the healthy, but the augmenting force which increases the sugar production is influenced more strongly. In the diabetic this augmenting force is in constant work, and is consequently weakened. The morphia, however, always acts upon both kinds of force, but here the inhibiting has the upper hand.

. . . . . .

"My contention is that opium always helps, because every diabetes stands on a nervous basis.

"But this neurosis is very often the necessary sequence of another disease, which is no neurosis, so that diabetes thus properly represents a symptom."

Clinical Record

A FATAL CASE OF SEPTIC PERITONITIS IN A PUERPERAL PATIENT ARISING FROM AN OLD ULCER OF THE STOMACH AND A SUB-HEPATIC ABSCESS

By ROBERT JARDINE, M.D., F.R.S.E.,

Professor of Midwifery in St Mungo's College; Physician to the Glasgow Maternity Hospital; Examiner in Midwifery to the University of Glasgow

PUERPERAL SEPTICÆMIA is said to be a preventable disease, and in the great majority of cases this is perfectly true. The source of infection is usually from without, and the birth canal the channel through which invasion occurs. This, however, is not invariably the rule, as the "septic cases of unusual origin" detailed by me in "Clinical Obstetrics" amply prove. The following case is another striking example of this. It also illustrates how extremely important it is to have a post-mortem examination in all cases, if one can possibly manage. In this case, as in the others, I was quite satisfied that the uterus was healthy, but could not make out where the source of infection lay. If it is true in abdominal surgery that one never knows what he may find inside the abdomen, it is equally true in regard to post-mortem examinations on puerperal cases. In all my cases I have learned something, and in many of them I have found that the cause of death was such that nothing could have been done to prevent the fatal termination.

Mrs M'A., æt. 29, v-para, was admitted to the Glasgow Maternity Hospital on May 27th, 1903. Her previous obstetric history was a rather striking one. In Feby. 1899 she was brought to the Hospital by her medical attendant after he had failed to deliver her of her first child. Her pelvis was found to be of the flat rickety type with a true conjugate of $3\frac{1}{2}''$. Dr Black delivered her with forceps. The child was dead. Her puerperium was febrile and she had a good deal of albumen in her urine. In 1900 she was again in Hospital under my care, and had a spontaneous premature labour at the seventh month. The child lived ten days. In 1901 she was delivered at home at full time. The child was born by the

breech and was dead. In 1902 she was again delivered at home prematurely. The labour was spontaneous, and the child came by the breech, but was dead. Early in the present pregnancy (her fifth) she wished to engage me to induce labour for her at her own home, but I advised her to wait to full time and come into Hospital and have symphysiotomy done. When she was about eight months pregnant she came to Hospital in labour, and was at once admitted. The presentation was a footling one. The delivery was easy, as the aftercoming head was easily pushed through the pelvis by suprapubic pressure. The child, a male, was alive and weighed 5 lbs.

The patient was very well for two days, but on the morning of the third day her temperature rose to 101·2° F., and her pulse to 120. Next day it rose to 104·6° F., and her pulse to 136. On the morning of the fifth day it fell to 99°, and her pulse to 112, but in the evening it again rose to 103·6° F., but came down again to 99·8° F. on the sixth day, some hours before she died. When her temperature rose she began to complain of pain, chiefly in the upper zone of the abdomen. The uterus was large, but not tender to pressure, and the lochia were quite sweet. There was some distension, and on palpating the abdomen she complained of pain in the upper region. On the fourth day she was sick and vomited a good deal, but there was nothing in the vomited material characteristic of a gastric ulcer. Her urine contained a few pus corpuscles, but was otherwise normal. I gave her an intra-uterine douche, but nothing was washed out of the uterus. Curiously enough the temperature fell steadily for twelve hours after the douching until it reached 99°. The distension and tenderness of the abdomen also lessened, and the patient seemed much better. Early on the sixth day she became very restless and delirious, and in a short time quite maniacal, and could only be quieted by a ¼ grain of morphia hypodermically. She died in the afternoon.

The following is Dr Carstairs Douglas' report of the post-mortem examination :—

"The body was that of a well-nourished woman ; external surface cold, rigor well marked generally ; pupils moderately dilated and equal ; post-mortem staining in back, blood-stained fluid oozing from nose.

"Thorax.—Much encroached upon by the liver, which had pushed the diaphragm up to rather above the fourth rib. Neither pleural sacs contained any fluid; both lungs were slightly œdematous and showed a little passive engorgement; no consolidation in either; both were emphysematous along the outer margins and at the apices. The heart appeared to be healthy.

"Abdomen.—Immediately on opening the abdomen a large quantity of sanious fluid welled up from under and behind the liver, carrying with it thick curdy flakes of pus. Examination showed a purulent exudation above and over the liver, and extending down the colon as far as the pelvis; the colon (ascending and transverse) showed much hyperæmia and inflammatory mottling, and the same was noticed on the peritoneum over the stomach; this was apparently recent. The upper surface showed some adhesions to the diaphragm, and below it, close to the transverse fissure, were adhesions between the liver and stomach enclosing an abscess cavity from which thick curdy pus welled out; the stomach wall here was thin and gelatinous and there was a communication with the cavity; internally the stomach wall was markedly hyperæmic at the point of adhesion and around.

"The kidneys and spleen were healthy. There were no signs of peritonitis over the coils of small bowels. The appendix was healthy. The right ovary was cystic, and the uterus healthy.

"It would appear that there had been adhesions formed between the liver and the lower curvature of the stomach, near the pylorus, and the perforation that eventually took place had led to the formation of a sub-hepatic abscess, but not to general peritonitis. The strain of delivery probably ruptured the adhesions, and set up a more widespread purulent peritonitis."

The strain of labour probably ruptured some of the adhesions, but I do not think the abscess cavity was then opened into as the patient's temperature and pulse remained normal for two days after delivery. If the pus had got into the abdominal cavity at the time of delivery there would have been indications of this almost immediately. I am inclined to think that the lessening of the inter-abdominal pressure by the

emptying of the uterus allowed of the pus burrowing its way out in a couple of days. If any of the adhesions had been broken down the process would be assisted. This, however, is of small consequence.

On subsequently questioning the husband, my resident, Dr Eric Gairdner, learned that for a year or two back the patient had had pain in the epigastrium after taking food, and had vomited at times. Towards the end of the present pregnancy these symptoms had become worse, and the patient had occasionally vomited blood, but never any quantity. Her vomit in the hospital never contained any blood. Even with this information I do not think I could have diagnosed the condition, and if I had, an operation would have done no good.

The case is an extremely interesting one, and bears out the importance of having a post-mortem examination. It also shows that an obstetrician must never forget that there are many other organs in the body besides the uterus, and that he must not concentrate his attention upon it alone when anything goes wrong with his patient.

I am indebted to Dr Eric Gairdner for the notes of the case, and to Dr Carstairs Douglas for the post-mortem report.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH

A QUARTERLY Meeting of the Royal College of Physicians was held on Tuesday, July 21st, 1903—Dr Clouston, President, in the Chair.

Loyal Address to King Edward: Reply from Secretary for Scotland.

A letter was read from the Secretary for Scotland, acknowledging the loyal address presented by the President and Fellows of the College on the occasion of the King's visit to Edinburgh, and announcing that the King had been pleased to receive the Address in the most gracious manner.

Introduction of New Fellows.

William Thomas Ritchie, M.D., F.R.C.P.E., and Alexander Dingwall Fordyce, M.B., Ch.B., F.R.C.P.E. were introduced and took their seats as Fellows of the College.

Admission to the Fellowship.

The following members were admitted by ballot to the Fellowship of the College:—Gilbert Alexander Bannatyne, M.D., M.R.C.P.E., Bath; Percy Theodore Herring, M.D., M.R.C.P.E., Edinburgh; Herbert Henry Ernest Russell, M.B., Melbourne, M.R.C.P.E., L.R.C.S.E., Adelaide; John William Simpson, M.B., C.M., M.R.C.P.E., Edinburgh.

Admission to the Membership.

On a ballot Herbert David Coles, M.D., F.R.C.S.E., Bournemouth, was admitted to the Membership of the College after examination.

Admission to the Licence.

The Registrar reported that since the last Quarterly Meeting thirty-five persons had obtained the Licence of the College by examination.

Curriculum and Examinations.

The Regulations regarding the Single Licence, and Membership and Fellowship of the College for the ensuing year, and the regulations for the Triple Qualification were approved.

Recognition of Lecturer.

Dr James Lamond Lackie, F.R.C.P.E., was recognised as Lecturer on Midwifery and Gynecology.

Reporting on Morbid Specimens.

It was agreed that morbid specimens submitted by sanitary authorities in Scotland should, subject to the approval of the Council, be received and reported on at the laboratory on the basis of payment of a fee on the scale fixed by the College when an arrangement was entered into between the College and the town.

Donation for Research.

The Treasurer intimated, on behalf of the Council, that a donation of £300, to be held in trust by the College, had been made by a gentleman, who did not wish his name to be disclosed, to meet the expenses of a research on the Micro-Organisms of the Upper Respiratory Tract, and their influence on the Disease of that Region.

Appointment of Morison Lecturer.

It was intimated that Dr John Macpherson, F.R.C.P.E., had been appointed Morison Lecturer for two years (1903-1904).

School of Medicine of the Royal Colleges.

The Secretary laid on the table the Annual Statement by the Governing Board of the School of Medicine of the Royal Colleges in terms of the Constitution. The report indicated that the number of classes during the Winter Session, 1902-03, was forty-one, and during the Summer Session, 1903, forty-four; and that the number of students during the Winter Session was 1244, and during the Summer Session 1080, both so far as could be ascertained, as certain Lecturers had not made returns.

Election of Representatives on the Governing Board of the School of Medicine of the Royal Colleges.

Dr Andrew and Sir John Sibbald were re-elected Representatives on the Governing Board of the School of Medicine of the Royal Colleges.

Hill Pattison-Struthers Bursary in Clinical Medicine.

The Treasurer announced that the Examinations to determine the award of the Hill Pattison-Struthers Bursary for excellence in Clinical Medicine would commence at the next Final Examination for the Triple Qualification Examinations.

Obituary

George William Balfour, M.D., LL.D., F.R.C.P.E., etc.,

Physician in Scotland to His Majesty the King

"*Umbra labitur . . . et nos umbrae.*"

So runs the motto over a burial-ground in Colinton Churchyard, where, on the tablets affixed to the wall, are the names of many members of one branch of a family that has been well known in Edinburgh for over three centuries. Originally, indeed, the Balfours belonged to Fife, where up till recent times "there were more heritors of that name than of any other"; but in the 16th century James Balfour, cousin and brother-in-law of the two Melvilles, came to Edinburgh and played a somewhat notable part in the troubles of the Reformation, and since then his descendants have made the city, or its close neighbourhood, their home. Through the dark days of the Covenanters, through the Jacobite risings—with which they had small sympathy, sturdy whigs as they

were—through all the amazing change and growth of Edinburgh during 300 eventful years, they played their part quietly, peaceably, sometimes with brilliance, always—as their descendants are proud to think—with honour.

Their old house of Pilrig, lying near Leith Walk, is a home of many memories, where many generations of Balfours were born and married and died; where their friends and kinsmen came and went and are still unforgotten. And there were notable men among them; they counted, among their kin, Hope the King's Advocate, Sir Gilbert Elliot, Wodrow the historian, Robert Whytt the eminent physician, that Gavin Hamilton of whom the Lord Provost in the '45 said: "I'm fair *seeck* o' Bailie Hamilton!" and Neil M'Vicar who prayed that memorable prayer in the West Kirk about the same time—"God bless the King; and Thou knowest, O God, what King I mean. But as for this young man who is lately come among us, seeking an earthly crown, do Thou, O Lord, speedily promote him to an heavenly one. . . ."

DR GEORGE WILLIAM BALFOUR

There are many others as well worth recalling, but the passing of time has swept away all but their names. And now, one more, who has borne the old name with honour, has just left us, and his place is empty: *umbra labitur . . . et nos umbrae.*

Dr George W. Balfour was born 80 years ago in the manse of Sorn in Ayrshire, but came to Colinton as an infant, when his father, the Rev. Lewis Balfour, D.D., a younger son of the house of Pilrig, was called to that parish. He grew up in that pleasant hollow under the high woods, girdled by the rushing Water of Leith, which he never forgot. The song of birds there, and the sound of the water, were still in age his dearest memories, and in the last weeks of his long illness he

had no greater pleasure than in recalling them. It was a simple and a sturdy life that he and his brothers led in the old manse. Up early, off a-foot to school in Edinburgh—there were neither cycle nor train to shorten the road then; yet he grew up the stronger for it, and like his family, where delicacy in youth passing into a vigorous old age, is rather the rule than the exception—like his father before him and some of his sons after him, he was told that "he would never see twenty," and lived to be fourscore.

Like his brothers, as he grew to manhood, his thoughts turned to distant lands. He proposed, at first, to join a friend in taking a sheep-run in Australia, and in order to better fit himself for the work, he took up the study of Veterinary Surgery, and obtained his diploma from the Highland and Agricultural Society in 1843. It was already felt, however, that his talents would command a place at home, and his sister, who survives him, begged their family physician to persuade him to devote himself henceforward to medicine proper, as applied to man, for which he had meanwhile developed a liking. He therefore gave up all idea of settling abroad, and though he took his V.S., he never practised. The classes that he had attended, to some extent at least to please himself, were allowed to count in his favour, and by this means he saved so much time that he became M.D. of the University of St Andrews in May, and Licentiate of the Royal College of Surgeons in June, of the year 1845. From this time onwards he added, or was granted, further qualifications and honours: he became Fellow of the Royal College of Physicians, Edinburgh, in 1861; Fellow of the Royal Society, Edinburgh, 1879; President of the College of Physicians from 1882 to 1884; Honorary LL.D. of the University of Edinburgh in 1884; LL.D. of St Andrews in 1896; Physician to Her Majesty in 1900; and Physician-in-Ordinary to King Edward in Scotland, in 1901. He was also for many years Physician to the Royal Infirmary, and thereafter Consulting Physician to that and several other institutions.

Shortly after taking his degree he went abroad to study in the Schools of Vienna, where he investigated the Theory and Practice of Homœopathy as taught by the great Hahnemann; and also learned there the use of the stethoscope in deter-

mining and defining the various heart and lung sounds, and their variations in health and disease. In this way he was one of the pioneers in the introduction of that now familiar instrument, the stethoscope, to this country; and it may be remarked in passing, very clumsy and heavy-looking articles the earlier specimens were. His studies in the use of this instrument ultimately placed him in the first rank of authorities on diseases of the heart, and his published works on the subject are of considerable importance. Having begun in private practice, first in Corstorphine, then in Cramond, near Edinburgh, he removed to town in 1858, and gradually confined himself to consulting work, principally on the heart and allied diseases. In 1898 he gave up practice, and retired to end his days at Colinton, the home of his boyhood, and to him and his a place of beloved memories. About him, as long before around his father in the old manse by the Water of Leith, children and grand-children gathered. He gave five sons to his own profession, as well as one to that earlier branch of it that he had abandoned. Like his father, also, his children were scattered to the "ends of the earth"; three of his sons were out in Africa during the late war, and one of them, Dr Harry Balfour, went through the memorable Siege of Ladysmith, in the camp at Intombi, recalling the days when an elder son of the Manse, Dr John Balfour, was quietly going his hospital rounds one day in Delhi, when the mutineers rushed through the streets, shouting *Din, Din.*

And here in Colinton Dr George W. Balfour's life drew to its close. During his long illness he loosed no hold on outside things, but rather drew his family and intimates closer round him; his children and his old friends came and went with news and gossip; grand-children brought their toys to show him; old patients consulted him when he himself was worse than they. His room was for many long months the centre-spot of home to all who loved him; and now it is empty, and to them, at least, it can never be filled. *Umbra labitur . . . et nos umbrae.*

He bore his long and trying illness, not merely with patience, but with a brave cheerfulness, a gallant, almost jaunty self-forgetfulness, that reminded his friends of the splendid

courage with which his gifted nephew faced his life so handicapped by disease. Stevenson had learned by practice during an invalid lifetime; Balfour, after an exceptionally healthy and hardy life, had to fight the tedium and suffering of a long and weary illness; and he made a good fight of it. He was attended during his illness by his old friends Professor Wyllie and Dr Claud Muirhead and Mr David Wallace. He took a deep interest in the clinical history of his own case and held his own opinions as to diagnosis. He made a gallant fight for life and recovery, but fourscore years of energetic, unsparing labour had left their traces, and he used to tell his friends who visited him that the odds were against him. During the whole illness he was most devotedly watched and nursed by his wife, and it was only when the end was near that he and she would allow that help from trained nurses was necessary. He liked to see some of his old friends, and even when strength was low he had his jest and his clever criticism of all that was passing in medical politics or progress. A funeral service was held in St Mary's Cathedral on August 13 at two o'clock, and he was laid to rest in Ratho churchyard.

Among the physicians of Edinburgh and its Medical School, Dr Balfour held a prominent and distinguished place. His extensive and accurate knowledge of medicine, in its past history and its modern progress, was well known, and he was a conspicuous example of the physician of wide culture, probably less met with now than in the bygone days.

At the very outset of his professional career, Dr Balfour rendered signal service to the cause of rational medicine in this country. Having in Vienna, while studying under the famous Joseph Skoda, observed the successful results of a method of treatment in acute diseases which, departing from the old established depletory practice, relied largely upon the *vis medicatrix naturæ*, aided by measures directed to maintaining the patients' strength, Dr Balfour, on returning to Edinburgh in 1846, brought his observations under the notice of the Medico-Chirurgical Society. They met at first with little favour from the leaders of the profession; nevertheless in no long space of time some of his most strenuous opponents became convinced of the soundness of this new practice, and were turned into its strongest supporters. But the credit of first bringing this matter before the profession here assuredly belongs to Dr Balfour. In

the keen controversies which at that period were carried on respecting the claims of Homœopathy, Dr Balfour was able as the result of extensive observations made in the Homœopathic Hospital of Vienna, to expose many of the fallacies of that system, whilst recognising its accidental therapeutic value in discarding blood-letting and antiphlogistic measures in the treatment of such acute diseases as pneumonia.

Throughout his whole career as a practitioner and consultant, Dr Balfour's work was characterised by painstaking effort to arrive at the truth in his investigations of morbid phenomena.

As became a pupil of Skoda his methods of physical examination were marked by thoroughness and accuracy, and his powers of diagnosis were widely acknowledged and trusted.

As a clinical teacher Dr Balfour could not be characterised as popular in the sense of his having a large following of students. Nevertheless there were always to be found with him some of the best men among them who, realising the value of his teaching, were prepared to bear the incisive and lively criticism he was wont to express as they examined and discussed the cases in his wards.

Dr Balfour's two chief works upon the heart were his *Clinical Lectures on Diseases of the Heart and Aorta*, published in 1876, which went through three editions; and *The Senile Heart*, published in 1894. Both of these works embody Dr Balfour's ripe experience and judgment, which, with their eminently practical character, make them reliable guides to the practitioner. Long before the publication of these works Dr Balfour had made important contributions to medical literature, especially in editing and translating for the New Sydenham Society *Casper's Handbook of Forensic Medicine*, and in a small work published in 1865 entitled *Introduction to the Study of Medicine*, which deals with many of the problems then engaging the interest of the profession, and gives evidence of an extensive acquaintance with the literature of medicine.

Dr Balfour's connection with the Royal College of Physicians, Edinburgh, was a long and honourable one. Joining the College as a Fellow in 1861 he filled various official positions, including that of Member of Council and Librarian, and he occupied the presidential chair for the two years 1882-84 with much acceptance. It was during his incumbency that the celebration of the Tercentenary of Edinburgh University took place and the Royal College of Physicians took part in some of the functions connected with that memorable occasion. At the entertainment given by the College to a number of the most famous of the visitors in the departments of Medicine, Science and Literature, Dr Balfour discharged the duties of the chair with singular grace

and dignity, and many of the Fellows will recall the felicitous references to the guests in the speeches of the President.

In the office of Librarian Dr Balfour rendered most valuable service to the College. He filled this post for the long period of twenty-four years (1873-1882 and 1887-1902), and only relinquished it when laid aside by his last illness. His knowledge of the literature of medicine and his own literary tastes made this work highly congenial to him, and he spared neither time nor effort in seeking to provide the library with the best works and make it the splendid collection it now is.

It is especially in this connection that Dr Balfour's name will be held in remembrance in the College. But indeed in all the concerns of the College Dr Balfour ever showed a lively interest, and of late years it was matter of common remark that among his colleagues he stood conspicuous for his knowledge of its affairs and its history.

In Dr Balfour's death the medical profession in Edinburgh is called to mourn the loss of a physician of high gifts, of singular modesty and integrity of character, and of truly exemplary life.

J. O. A.

Editorial Notes and News

The British Medical Association at Swansea.

THE British Medical Association entered on a new lease of life under its new constitution with this year's Annual Meeting. On the whole it must be pronounced to have been successful. The wrangles which used to disturb the Annual Meetings were conspicuously absent, and if the Representative Meetings were to some a trifle wearisome, still it must be remembered that the first meeting of a new body is always a long one. There were rules of procedure to adopt, and these took some time to discuss; and further, many of the members were unknown quantities and took a little time to find their level. Future meetings may be trusted to estimate the necessity or the reverse of listening to certain speakers who occupy more time than the matters they have to communicate justify.

Sir Victor Horsley was an admirable chairman. He was extremely tactful, always keeping control of the meeting, and never giving a ruling which aroused any resentment. Indeed, we believe it is the attempt to "boss" the meeting which has in the past often led to unpleasant scenes.

Some may think some of the conclusions come to rather absurd, and possibly some were, but most of them were reason-

able, and will, we think, tend to promote the usefulness of the Association. Inquiries into certain matters were recommended, and as "inquiry" is at present so much in evidence, no supporters of the Government at least can object to these. Club practice is a thing which it is obviously desirable should be placed on a business footing or condemned altogether, and it was only inquiry into that which the meeting approved of.

On the Vaccination question the meeting spoke with no uncertain sound, and one gentleman undoubtedly voiced the opinion of the profession when he laid down that, "If the private interests of the profession contrasted with the interests of the community, the professional interests must give way."

The meeting was not overwhelmingly large, and certainly the Association will not be ruined in paying the travelling expenses of the representative members. Indeed, we question whether ever again there will be so large a representative meeting. We think it more than likely that several divisions will combine in future in the election of one representative, and if they choose the right men, then a comparatively small meeting should suffice.

The weariness of the somewhat prolonged sitting on Wednesday was lightened by occasional flashes of humour. There were two delicious bulls. One came, as might naturally have been expected, from the Green Island, a representative of which related to the meeting the hardships of dispensary doctors, and told how one of these gentlemen had a district which was twenty miles long, and *half as broad again.* The other came from the lips of the chairman. The meeting had agreed that it should be open to any branch to go back to the old regulation of requiring sponsors for election purposes, and in connection with this had to be discussed a proposal that officers of the services should be exempt from this regulation. This proposal aroused some opposition and amendments were moved to it, one amendment being that it should be applied only to officers on active service. A representative inquired whether this meant active service in the field, and the chairman pointed out that such a restriction would only apply to the army, for the navy was "always in the field."

With a little opposition the meeting agreed to the appointment of a Scottish Committee, as suggested by the Dundee branch. The Committee is to meet in Scotland, and will, we believe, be an admirable means of focussing Scottish opinion on matters under discussion. It will certainly greatly strengthen the hands of the small body of Scottish representatives on the Central Council, since it will enable them to speak more as representatives than they have done in the past.

The Scientific Work of the Meeting.

MANY old members shook their heads when they heard that Swansea was to be the place of meeting, and many must have had doubts as to the success of a meeting in so out-of-the-way a part of the country, but it must be admitted that the meeting was a success. It is true that some of the sections were lamentably meagrely attended, and this fact will strengthen the hands of those who hold that the more strictly scientific sections may be omitted, or at least grouped, in the smaller places the Association visits. Speaking generally the sections were a success. The Medicine Section, to use Lord Rosebery's phrase, "muddled through." Members of the Psychological Section spoke warmly of the success it had been, and with the exception of one, which we need not further particularise, all were moderately successful.

The entertainments during the week were on the most lavish scale, and it is the opinion of many that entertainments are bulking too largely in the Association week. There were very interesting visits to the copper and other works in Swansea, and on Saturday excursions to the numerous wells in the neighbourhood.

No meeting of the Association is now complete without the annual golf match. The Swansea course is three years old, but has promise of making a first-class links. It was the original intention of the promoters to play England and Wales, Scotland, Ireland, and the Colonies, but distance told, and the numbers entered did not allow of this, for England had as many representatives as all the others put together. It was then proposed to play the match as England *v.* the "Celtic Fringe," but we found that Lord Salisbury's cynical humour was not so appreciated in Wales as farther north—a further proof of the incorrectness of the reproach that Scotland is deficient in the sense of humour—and the match had to be played under the prosaic title of England *v.* "The Rest!" The result was most disastrous for "The Rest," for they only won two matches, although on paper they appeared the stronger team. We trust that next year at Oxford "The Rest" will give a better account of themselves.

Next Year's Meeting.

EVERYONE must have heard with the greatest satisfaction of the invitation of the Oxford Division to the Association to hold its next meeting in Oxford. Many are of opinion that the Association should never meet outside teaching centres, and while possibly "never" is too strong a word, it is certainly the case that the teaching schools are associated with the most successful meet-

ings. As a Medical School of course Oxford (we have Mr Cecil Rhodes' authority for it) is not in the front rank, but as an interesting place none can approach it, and we look forward to a meeting which will run very close the success of that held in Edinburgh in 1898.

We hope that the local men will realise the importance of their meeting, and that they will see to it that the offices are fairly distributed all over the Empire, so that it may be a representative as well as a successful meeting.

In Dr Collier the Association will have probably its youngest President, but this is the day, even in medicine, of young men, and it will be interesting to have a presidential address from one who not only looks back on the past, but looks forward to the future.

Mr Jonathan Hutchinson and Leprosy.

THE Section for Tropical Diseases gave Mr Hutchinson an opportunity of once more putting forward his well-known heresies as to the etiology of leprosy. He reiterated his views at such length that little time was left for subsequent speakers, and after the President had told the one or two who spoke that they must cut their remarks as short as possible, he stopped further discussion and intimated—another bull—"That if anyone else had anything to say, he must say it in writing."

As Sir Patrick Manson said, Mr Hutchinson is a pathetic figure; but he is more than pathetic, he is dangerous. He has at his disposal means of diffusing his views which are not usually utilised by members of the medical profession. He informed the gentlemen of England, through the medium of the *Times*, early in the week, that important pronouncements would be made by the British Medical Association in connection with his views. They were. Every single speaker of the few who had the opportunity of speaking, and to our knowledge many had not, stated their utter disbelief in Mr Hutchinson's theories.

Sir Patrick Manson compared Mr Hutchinson to John the Baptist crying in the wilderness, and he made the comparison appear right by stating he was not one of his disciples. Scriptural illustrations are always dangerous, especially when one has been so long out of Aberdeen as Sir Patrick has. Surely John the Baptist was hardly the person to be referred to as a false prophet. Perhaps Balaam would have been more suitable. But keeping clear of Scripture, the person whom Mr Hutchinson reminds us of is that apocryphal Scotsman, conjured up by an American orator last year, who is said to have thanked God that he was not open to conviction.

If a leper can be induced by strict cross-examination to

admit that at least once in his life he has eaten fish, down he seems to go as a new proof of Mr Hutchinson's contention. How the inhabitants of the Orkney and Shetland Islands escape when their diet is mainly fish, is a matter which is airily passed over. As we said before, while we admit Mr Hutchinson is a pathetic figure, we contend that he is a dangerous one, for this "red herring" of the fish theory tends in the public mind to obscure the fact, universally accepted by all scientific leprologists, that leprosy is contagious.

It is easy to draw gruesome pictures of life in Robben Island. One could draw equally gruesome pictures of death in a smallpox hospital, and of the means employed in dealing with plague. If the precautions of the Cape Government are excessive, and Hansen's experience in Norway seems to support the view that they are, let them be modified. But the State has the right and the duty of safeguarding the public health by preventing individuals affected by a contagious disease from wandering recklessly at large. We see in this week's papers that a case of leprosy in London is attributed to the patient having eaten Bombay Duck. How many have done the same regularly and for years. We think it would be well if the *Times* would give equal publicity to the contradictions of Mr Hutchinson's views as it has given to his theories.

"Advice to those who are about to lose their eyesight."

So much attention has been paid in recent years to the education of the blind, and so much has been done to enable those who have lost their sight in childhood or who have been blind from birth to acquire an education which will enable them to maintain social intercourse with the general population and to earn their own livelihood, that it seems surprising that the case of those who, in adult life, have to face inevitable blindness has been so little considered. It has often been remarked that a medical man never suffers from an illness without gaining valuable knowledge which he had failed to acquire from the observation of any number of similar cases in others, and valuable monographs have been written by physicians upon diseases which they have learned to understand through personal suffering. The latest instance of a medical man giving the world the benefit of his own experience is Dr Emile Javal, who has had the misfortune to lose his sight at the age of sixty-two, and who has published for the benefit of similarly afflicted humanity a little work entitled "Conseil à l'usage des personnes qui viennent de perdre le vue."

Dr Javal's general advice is addressed quite as much to the physician and friends as to the patient. If a man is really on

the way to inevitable blindness he ought not, says Dr Javal, to be allowed to nourish any false hopes of arrest or cure; he ought not to be dosed with strychnine, or stimulated with electricity. Rather let him "face the music" with courage, and prepare for the lot which he cannot escape. Let him remember that blindness need not, after all, shut a man off from intercourse with his fellows, or even prevent his leading a useful life. Let him recall how many men, in spite of blindness, have yet attained to distinction. Without going back as far as Homer, let him think of Huber, who, blind at sixteen, yet continued, with the assistance of a faithful servant, the work of Réaumur on the habits of bees; of Augustin Thierry, blind at thirty, who continued to pursue his historical researches, and dictated his *Récits des temps merovingiens*; of Milton, who, losing his sight at fifty, dictated to his daughter his *Paradise Lost*; of Rodenbach playing an important part in the Belgian Parliament; of Fawcett, blind at twenty-six, replacing his career as advocate by that of literature, becoming a member of the House of Commons, and eventually Postmaster-General. With such examples, let the sufferer take courage and use what time remains to him before sight is completely gone to fit himself for the new life which is before him.

There can be no doubt that much could be done in most cases by foresight and perseverance to render loss of sight less unendurable. The blind man who can find his way alone through crowded streets; who can enjoy rowing, swimming, skating, dancing and other active amusements; who can read and write; who can play the piano, use the typewriter, work with joiner's tools, knit, sew, or otherwise employ his hands, possesses no senses which others do not possess. The senses he does possess, and especially the sense of touch, are more highly cultivated than ours. That is all. What anyone about to lose his sight should be advised to do, is to set about cultivating his other senses as soon as possible so that the days of darkness may not find him unprepared. No doubt anyone losing his sight in adult life is at a serious disadvantage in respect to tactile training as compared with those who are blind from birth. His sense of touch, long untrained, does not respond so readily to efforts to cultivate it. But this is only an additional reason for his taking time by the forelock, and beginning to train himself while the eye can still assist the hand, even as, in his own childhood, the hand was wont to assist the eye. One must remember, too, that if it is a disadvantage that the tactile sense should have been for so long but little used, yet those who have been vouchsafed long years of sight retain a store of visual images which must greatly assist the interpretation of

tactile impressions in a way to which the man blind from birth has ever been a stranger.

University of Aberdeen

THE summer graduation ceremony was held in the Mitchell Hall, on July 24th, when the following degrees in Medicine were conferred :—

DEGREE OF DOCTOR OF MEDICINE (M.D.).

* Commendation for Thesis.
*** Highest Honours for Thesis.

Allan, Alex. Gregory, M.A., M.B., C.M., 49 Myddleton Road, Bowes Park, London, N. Thesis—"Clinical Observations on Infective Gastro-Enteritis of Infants."

Cooper, James Snowie, M.B., C.M., Summerhill, New Machar. Thesis—"Some Clinical Observations on cases of Pulmonary Tuberculosis."

Cruickshank, Wm., M.B., C.M., Mozambique, East Africa. Thesis—"Notes on cases of Blackwater Fever."

Dingwall, Archibald, M.A., M.B., C.M., 69 Beauval Road, Dulwich Park, London, S.E. Thesis—"A Review of the Antitoxin Treatment of Diphtheria."

Fraser, Simon John Coulter, M.B., C.M., 22 Gratton Road, West Kensington, London. Thesis—"Some Remarks on the Allied Subjects of Rickets, Infantile Scurvy and Artificial Infant-feeding."

Geddes, George, M.B., C.M., 2 Rochdale Road, Heywood, Lancs. Thesis—"A Record of Observations on Cerebral Pneumonia in Children."

Gibb, George Alexander, M.B., C.M., 373 Lodge Road, Birmingham. Thesis—"On the Prevention of Puerperal Septic Disease."

Jamieson, Alex., M.B., C.M., 136 South Lambeth Road, London. Thesis—"Neurasthenia and some allied Neuroses."

***Murray, Charles, M.A., M.B., Ch.B., 11 Rubislaw Terrace, Aberdeen. Thesis—"Studies on Proteids." [New regulations.]

*** Petrie, George Ford, M.B., Ch.B., Queensberry Lodge, Elstree, Herts. Thesis—"On the Relationship of the Leucocytes and certain Organ-Extracts to the Bacteriolytic power of the Blood." [New regulations.]

* Petrie, John Moir, M.B., Ch.B., 169 Brigstock Road, Thornton Heath, Surrey. Thesis—"The significance of pain as a symptom in Gynæcology." [New regulations.]

Reid, Alex. William, M.B., C.M., Garrogy, Whitebridge, Inverness. Thesis—" Observations on Epidemics of Cholera in India." [New regulations.]

Stephen, George, M.B., C.M., West Auckland, County Durham. Thesis—" The Uric Acid Diathesis."

* Tindal, Frederick Mayfield, M.B., C.M., Sleekburn, Bedlington, Northumberland. Thesis—" Gastric Ulcer, Acute and Chronic."

Trotter, Robert Samuel, M.B., C.M., Old Brewery House, Bedlington, Northumberland. Thesis—" A Contribution to the Hygienics of Coal Mining."

Tuach, William, M.B., Ch.B., Royal Asylum, Dundee. Thesis —" Acromegaly: A Clinical and Pathological Study." [New regulations.]

* Urquhart, Alex., M.A., M.B., Ch.B., Highfield, Shepperton-on-Thames. Thesis—" A Contribution to the Study of Recent Cancer Mortality in the Thames Valley." [New regulations.]

* Wishart, John, M.B., Ch.B., B.Sc., Old Brewery House, Bedlington, Northumberland. Thesis—Part I., " The Influence of Climate and Soil on the Public Health of Bedlingtonshire." Part II., " A Clinical Study of Skin Cases." [New regulations.]

DEGREES OF BACHELOR OF MEDICINE (M.B.) AND BACHELOR OF SURGERY (Ch.B.). (NEW ORDINANCES.)

* Passed Final Examination with Distinction.

WITH SECOND CLASS HONOURS.

* Alexander Callum, Newton, Glenbuchat, Aberdeenshire; * Wm. Clark Souter, Tullos House, Nigg, Aberdeen.

ORDINARY DEGREES.

Benjamin J. Alcock, M.A., Schoolhouse, Cruden; Richard Gavin Brown, 53 Desswood Place, Aberdeen; * Margaret Duncan, Hallhill, Turriff; William Elwood, Abbey Park Road, Grimsby; Isabella Gunn, Kilnhillock, Cullen; Matthew Hughs Harris, Newcastle, New South Wales; Maurice Buchan Johnson, Blytheswood, Melbourne; Alexander Fraser MacBean, M.A., Peterhead; William Sim M'Gillivray, Macduff; Duncan James Macrae, Stornoway; James Webster Miller, Ardclach, Nairn; Frank Le Quesne Pelly, Londonderry, Ireland; Frank G. T. Peterkin, 68 Beaconsfield Place, Aberdeen; George Baird Sleigh, M.A., Strichen; Isabel Copland Smith, Ashley Lodge, Aberdeen.

DEGREES OF BACHELOR OF MEDICINE (M.B.) AND MASTER IN SURGERY (C.M.). (OLD ORDINANCES.)

George Charles M'Gregor, Keith, Banffshire; A. L. N. Maclean, Auckland, New Zealand.

JOHN MURRAY MEDAL AND SCHOLARSHIP

(Awarded to the most distinguished graduate (M.B.) of 1903).

Alexander Callam, Glenbuchat } equal.
Hugh Maclean, Daviot, Inverness }

THE GEORGE THOMSON FELLOWSHIP.

George G. Macdonald, M.A., M.B., Ch.B., Cornhill, Banff.

DIPLOMA IN PUBLIC HEALTH.

Kenneth Fraser, M.B.,Ch.B. (Aberd.), Inverness; John Halley, M.B., C.M. (Aberd.), Aberdeen ; James Macfarlane, M.B., Ch.B. (Aberd.), Aberdeen ; Arthur John Milne, M.B., Ch.B. (Aberd.), Aberdeen ; John Stuart Ross, M.B., Ch.B. (Aberd.), Grantown-on-Spey ; James A. Simpson, M.B., Ch.B. (Aberd.), Alford ; Robert A. Slessor, M.A., M.B., Ch.B. (Aberd.), Aberdeen ; Wm. E. Taylor, M.B., Ch.B. (Aberd.), Aberdeen ; George C. Trotter, M.B., Ch.B. (Edin.), Edinburgh.

Edinburgh University Examinations

THE following is the official list of passes at the recent professional examinations for degrees in medicine and surgery :—

First Professional Examination.—A. D. Anderson, J. L. Annan, Marion H. Archibald, M.A.; J. C. Ashton, Ernest Banks, C. B. Baxter, C. S. Baxter, J. H. Bell, A. E. Bennee, J. H. Bennett, Mary F. Bignold, F. H. Bradley, J. A. Brand, E. A. Brummitt, Thomas Buchan, Thomas Burrell, L. A. P. Burt, J. A. R. Cargill, R. J. Chapman, F. M. Chrystal, C. H. Corbett, Denis Cotterill, Theodore Craig, H. C. D. Cross, F. W. M. Cunningham, G. H. Dart, S. K. Datta, B.A.; Margaret E. Davidson, Thomas Derrick, P. S. Dias, C. A. A. Dighton, Joanna M. F. Drake, G. L. Duncan, James Eaves, L. T. Eden, Robert Edwards, J. Letitia D. Fairfield, S. B. Faulkner, E. M. Figaro, T. Y. Finlay, W. S. Forbes, P. J. Garvey, David Geddis, G. H. R. Gibson, J. B. Gibson, M.A.; Grace H. Giffen, John Gilmour, I. M. Grant, J. G. Greenfield, A. R. Gunn, H. F. G. Hall, J. K. Hamilton, F. G. Harper, Hester M. Henderson, A. F. Hewat, Matthew Heyns, J. K. A. Hofmeyr, J. H. Horne, T. J. Hughes, R. L. Hutton, Spencer Jackson, R. H. Jamieson (with distinction), T. A. Johnston (with distinction), G. G. Jolly, S. W. Joubert, Beatrice Kippenberger, J. G. de Kock, David Lees, G. L. Little, James Lorimer, Thomas Lyon, A. M. Macarthur, David M'Cracken, Angus Macdonald, I. C. Mackenzie, Ada J. Macmillan, D. J. M'Rae, S. E. Malherbe, J. A. Manifold,

F. W. Michael, G. G. Middleton, A. F. W. Millar, A. P. Mitchell, James Muckart, J. J. H. Nelson, Katharine B. A. Nelson, F. H. Nixey, C. F. Pattie, G. R. Pillai, W. J. Porteous, D. H. Rai, B.A.; Gustav Raubenheimer, G. J. Reidy, Barbara Richardson (with distinction), C. L. D. Roberts, A. N. Robertson, David Robertson, Edmund Sharpe, F. F. S. Smith, Dorothy W. Stevenson, A. E. Tait, K. R. Tampi, B.A.; R. A. Taylor, M.A.; C. H. Tewsley, David Thomson (with distinction), William Thomson, William W. Thomson, V. F. Usher, A. M. Vlok, Helen M. Wakefield, J. C. B. Williams, G. S. Williamson, James Wilson (with distinction), Maria P. Winning, W. A. Wyllie.

Second Professional Examination.—D. C. Alexander, A. C. Alport, William Anderson, George S. Banks, D. M'F. Barker, W. J. E. Bell, J. W. Bingham, E. J. Black, C. E. Blair, R. A. Blake, Gilbert Britto, Elizabeth H. Brook, J. W. Cairns, Thomas Campbell, H. M. Cargin, N. S. Carmichael, Marjorie Duake Cohen, Agnes M. Cowan, F. W. Cragg, A. B. Darling, H. A. Edwards, H. F. Fenton, C. N. Finn, J. F. Gallagher, J. A. Glover, M.A.; J. M. Grant, Joseph Green, E. J. C. Groves, J. A. Gunn, M.A.; J. Turner Gunn, R. W. D. Hewson, R. M. Liddell, J. A. Loughridge, F. J. Luck, J. B. Mackenzie, Murdo Mackinnon, A. C. M'Master, R. W. D. Macrae, William Magill, Ada E. Miller, F. C. Mills, H. B. Morris, Harold Mowat, R. E. Moyes, E. B. Munro, R. E. U. Newman, H. J. Norman, C. R. O'Brien, D. H. Paul, J. L. Pearce, D. E. C. Pottinger, George Raffan, T. E. Roberts, J. R. Robertson, W. L. Robertson, Henry Sauzier, Archibald Simpson, S. A. Smith, W. T. Smith, W. B. Tannahill, R. B. Thomson (with distinction), F. J. G. Tocher, Archibald Todrick, J. H. du Toit, W. H. Welsh, F. P. Wernnicke, Marian E. Wilson. Old Regulations—Grace H. Giffen, R. W. Telford.

Thtrd Professional Examination.—D. J. Anderson, W. F. Archibald, G. G. Bartholomew, W. S. Murdoch Brown, Hugh C. Buckley (with distinction), V. T. Carruthers, E. A. Elder, J. J. M'L. Falconer, Laurence Gavin, O. M. Gericke, A. G. Glass, A. M. Gloag, William Godfrey, David Golding, H. V. Goldstein, V. R. Gorakshakar, William Jarvis, Faiz Jung, S. W. S. Leary, A. P. G. Lorimer, S. A. M'Clintock, James MacKenzie, Edinburgh; Amy M. Mackintosh, Alfred Malseed, M. M. Mamourian, J. B. Mears, Venancio Moralejo, John Morris, D. S. Murray, William Patton, W. J. D. Robertson, Joseph Robinson, B.Sc.; L. H. Skene, C. J. Smith, R. A. L. van Someren, Alexander Stephen, M.A.; George Stewart, H. M. Thompson, R. S. Enever Todd, M.A., B.Sc.; Rose C. Townend, Helen R. Vickers. Pathology only—Hugh Ferguson, C. Rose Greenfield, A. E. C. Rees, B.A.

Royal College of Surgeons, Edinburgh

AT a meeting of the College held on 30th ult., the following gentlemen, having passed the requisite examinations, were admitted Fellows of the College :—Neil Murphy Gairn, L.R.C.S.E., India; James Campbell Nicholson, L.R.C.S.E., Bangor; Elfred Chalmers Austin, M.R.C.S.Eng., London, W.; Percival George Albert Bott, M.R.C.S.Eng., London, W.; William Henry Eden Brand, L.R.C.S.E., Aberdour; Edwin Harold Brown, L.R.C.S.E., Chesterton, Staffs; Edward Augustus Bullmore, M.R.C.S.Eng., London, W.C.; William Darling, M.B., Ch.B., Edinburgh; Francis Wilfrid Harlin, L.R.C.S.E., Edinburgh; Frederick Burroughs Jefferiss, M.R.C.S.Eng., Chatham; Cecil Ernest Jones-Phillipson, M.R.C.S.Eng., Port Alfred; John Davis Lithgow, M.B., C.M., Edinburgh; Thomas Hillhouse Livingstone, M.B., Ch.B., Stanhope, Durham; Edward Elie Naggiar, M.R.C.S.Eng., Edinburgh; Eugene Joseph O'Neill, M.R.C.S. Eng., New Zealand; Hans Martinus Peries, L.R.C.S.E., Colombo; James Martin Reid, M.B., Ch.B., Edinburgh; Alexander Sharp, L.R.C.S.E., Boat of Garten; Aubert Dunbar Shepherd, M.B., Ch.B., Westmoreland; Thomas Scott Shepherd, M.B., M.R.C.S.Eng., Lancaster; George Freeland Barbour Simpson, M.B., Ch.B., Edinburgh; Henry Wade, M.B., Ch.B., Edinburgh; and Arthur Whittome, M.B., Ch.B., Edinburgh.

Royal College of Physicians, Edinburgh; Royal College of Surgeons, Edinburgh; and Faculty of Physicians and Surgeons, Glasgow.

THE quarterly examinations of the above Board, held in Edinburgh, were concluded on 25th inst. with the following results :—

First Examination, Four Years' Course.—Mr Leonard Clarke Webster, Tasmania, passed the examination.

First Examination, Five Years' Course.—Of thirty-four candidates entered, the following twenty passed the examination :—Effie Jemima Cassels, Glasgow; Michael Albert Mubrain, Trinidad; Thomas Richard M'Kenna, Queensland; Lester Ernest Ashley-Emile, India; Archibald Davidson, Melbourne; George Edward Walker Henderson, Edinburgh; Léon Galdemar, Mauritius; Charles Henry Arthur Alderton, Madras; John Scott Ward, County Cork; Leo Murphy, County Cork; Percival Thomas Rutherford, Shipley; Denham Cecil Woods, Hyderabad; Taylor David Murison, India; Herbert Moncrieff Sturrock, Edinburgh; James Haig Johnston, Carnbee (with distinction); Douglas Llewellyn George Radford, Leith (with distinction);

Herbert Charles Orrin, Colchester; Rodolphe Edward Laurent, Mauritius; James Quinlan, County Cork; and Francis Willoughby Bullock, London; and one passed in Physics, two in Biology, and one in Chemistry.

Second Examination, Four Years' Course.—Of seven candidates entered, the following three passed the examination:—William Murray, Middlesborough; Henry Gordon Campbell, Dundee; William Patrick Timmon, Navan; and two passed in Anatomy, one in Physiology, and two in Materia Medica.

Second Examination, Five Years' Course.—Of thirty candidates entered, the following seventeen passed the examination:—Lester Ernest Ashley-Emile, India; Daniel Thomas Henry Croly, County Mayo; Henry Albert Pascoe, Durban; Walter Damms, Sheffield; Carlo Ferruccio Fiaschi, Sydney; David James Melville Legge, Dundee (with distinction); Patrick Raoul Eskell, Port Elizabeth; Daniel Kennedy, Cork; Thomas M'Laren Galloway, Kirkcaldy (with distinction); Denham Cecil Woods, Hyderabad; Thomas Campbell Dykes, Dumfries; Henry James Gorrie, Dundee; Sites Chunder Chuckerbutty, Calcutta; Robert Thomas Aloysius Patchett, Lancashire; Dirk Johannes Neethling, South Africa; Leo Patchett, Lancashire; and Sorabji Jamasji Bhathend, Bombay; and one passed in Physiology.

Third Examination, Five Years' Course.—Of twenty-one candidates entered, the following fourteen passed the examination:—Tom Newman Darling, Reading; William Cooke Renshaw, Cheshire; Gideon Hendrik van Zyl, Cape Colony; Edward Herrick Knowles, Australia; James Ninian George William M'Morris, Newfoundland; John James Gillis, County Antrim; Colin Garner, Preston; Charles Chaves, Bombay; John Douglas Haley, Youlgreave; Sohrab Shapurji Antia, Central India; Narindra Singh Sodhi, Punjab; Ramchandra Kashinath Dhuru, Bombay; Reginald William Townley, Blackburn; and Henry Murray Agnew, Belfast; and two passed in Pathology and one in Materia Medica.

Final Examination.—Of fifty-seven candidates entered, the following thirty-four passed the examination and were admitted L.R.C.P.E., L.R.C.S.E., and L.F.P. and S.G.:—John Archbold Turnbull, Guernsey; Michael Joseph King, Ireland; John St Aubyn Maughan, Grimsby; George James Stones, Birkenhead; Benjamin Peter Donald, Victoria; John Samuel M'Lean, Melbourne; William Edgar Robertson, Ontario; George Morley Arundel Thomas, Maesteg, Glam.; Adrien Ernest Emile Reboul, France; Herbert Fabian Alsop, Melbourne; Adam Wilson Hall, Edinburgh; Harry Armstrong, West Hartlepool; Allan Graham Hurdman, Ottawa; Thomas Bunnett Lewers,

Victoria; Charles Stuart Macaskie, Northumberland; Herbert Frederic Walker, Launceston; William Pearson Cowper, Orkney; Tom Bragg, Whitehaven; John Brydon, Hartlepool; Vincent Paul Pereira, Bombay; Randal Herley, County Cork; Norman Cecil Rutherford, Shipley, Yorks; Angus M. S. Kelso, Arran; Loren Wilson May, Ottawa; Dowlatram Gopaldas Advani, Hyderabad; Thomas John Walsh, Kilkenny; Peter Oswald Jollie, Leslie; Robert Burnham Smith, Great Harwood; Henry Carlaw, Aldershot; Lakshmishankar Morarji Bhatt, Bhavnagar; Merwan Sorab Irani, Poona; Arthur Neville, Cheltenham; Thomas Gibbons, Mayo; and Frank Henry Rae, Kincardine O'Neil; and two passed in Medicine and Therapeutics, one in Surgery and Surgical Anatomy, seven in Midwifery, and nine in Medical Jurisprudence.

Recent Literature

CRITICAL SUMMARIES AND ABSTRACTS

MEDICINE

THE THERAPEUTIC VALUE OF HIGH FREQUENCY CURRENTS

By HARRY RAINY, M.A., M.D., F.R.C.P.Ed.

TWELVE years have now passed since currents of high frequency were first applied for therapeutic purposes by Professor d'Arsonval, and although hitherto they have received but scanty recognition in this country, the evidence which has accumulated during these years in France and other parts of the continent is such as to establish beyond all controversy the therapeutic value of this form of treatment.

The scattered communications in which the various experimenters in this field have recorded their results have been ably collated by Dr Denoyés, whose treatise contains a full account of the literature to the end of 1901. Since that time further reports have appeared in many of the foreign medical journals, and references to the more important of these are given in the list at the close of this abstract.

With regard to the methods by which the high frequency currents are applied, one may distinguish three as being of special value. Two of these, auto-conduction and condensation, are designed to produce a general effect upon the patient, the third is applied locally in a manner resembling that in which the static current is employed. In the case of "auto-conduction" the patient is encircled by a large cage of wire wound in a spiral direction round the framework, no part of the cage

being in contact with him. Whenever the high frequency currents circulate in this cage or solenoid, corresponding currents are induced in the tissues of the patient. When "condensation" is the method preferred, the patient receives a very considerable charge of electricity with each oscillation of the high frequency current, occupying in fact very much the same position as the inner coating of a Leyden jar which is being rapidly charged and discharged. The arrangements for "condensation" being somewhat more convenient than those required in "auto-conduction" it seems likely to supplant the latter in the majority of cases, as the effects of the two methods are very similar.

Amongst the so-called diseases of general nutrition, perhaps the most hopeful results have been obtained in *diabetes* and in some forms of *chronic rheumatism.* Referring to the former disease, Denoyés concludes from his own experience and the records of others that high frequency currents almost always improve the general condition of diabetics; and in some cases, but only in some, reduce the amount of sugar which is excreted. In view of the very various conditions under which glucose appears in the urine, it is important to discriminate between grave diabetes and merely incidental glycosuria. Recently, however, Gandil has reported on a case which came under his care where the patient's mother, brother and son had all died of diabetes, whilst the patient himself had suffered from severe glycosuria for fully thirty years, during which time all kinds of treatment had been tried with but little effect on the malady. After a course of treatment by condensation the sugar wholly disappeared and the patient's general health became much better. Of course one such case must not be over-valued, but it is certainly encouraging to know that even occasionally such brilliant results may be obtained.

In chronic rheumatism generalised treatment has also proved of distinct value, and whilst one cannot look for the restoration of tissues displaying long-standing anatomical lesions, yet in almost every case the patients appear to obtain a greatly increased freedom in the movement of affected parts, and comparative absence of pain.

High frequency currents have been used with doubtful benefit in the treatment both of surgical and medical *tuberculosis.* The question was discussed in the International Congress for Electrotherapeutics held at Berne in 1902, but although some speakers, including Dr Moutier, of Paris, were of opinion that it was of value in some cases, the general feeling seemed to be that although further research is desirable, one must not expect very notable results in the treatment of these conditions. A full and valuable record of the older work on tuberculosis by Doumer

Oudin and others is given by Desnoyés, who has also himself made an elaborate series of researches on guinea-pigs inoculated with tuberculosis, and who is inclined to attribute some degree of favourable influence to the high frequency currents in the animals treated by them after inoculation.

The effect of high frequency currents is often very striking in patients suffering from diseases of the *nervous system*. Amongst these perhaps the most remarkable is the undoubted improvement which Denoyés was able to effect in a case of progressive muscular atrophy. Dr Alexander Bruce informs me that he has recently had a similar case under his care, and that he can fully confirm Denoyés' report, as he also has observed the most striking improvement in the patient's condition.

Other nervous maladies which have received attention are some forms of neurasthenia, and various painful affections of the nerves, both pure neuralgias and cases associated with distinct neuritis. Though the last group are not always very amenable to this treatment, they are frequently much improved, and neuralgias almost always yield satisfactory results when subjected to local applications, which, in this instance, are much more efficacious than the generalised treatment by auto-conduction or condensation.

In neurasthenia the cases which react best appear to be those where the blood pressure is distinctly subnormal, but others also may derive benefit. An interesting point is, that whilst true neurasthenias generally improve, this form of treatment does more harm than good in cases of hysteria.

Skin diseases have often been cured also. In some cases the result may follow changes in the tone of the cutaneous vessels, but in addition to this action, the local spray produces effects which almost resemble those of the X-rays. Pruritus, eczema, psoriasis, alopecia and lupus are all found to recover in a large proportion of cases submitted to treatment, whilst recently the more superficial forms of nævus, including "port-wine stains" of the skin, have been cured without leaving any trace of scar tissue; and since the procedure is painless, the patient is relieved from the necessity of taking an anæsthetic.

Remarkable recoveries are recorded in cases of *hæmorrhoids* and of painful *anal fissures*; and since the diseased condition is in this instance within view of the surgeon, the results are more under control, and the question of personal equation and the influence of suggestion are practically eliminated. Where the hæmorrhoids are of recent development, the cure is often remarkably rapid, being usually achieved after four or five applications, and occasionally after only one séance. When they are of

longer standing, and the anatomical changes are more marked, the treatment is rather more protracted, but in the end is almost invariably successful. Fissures react, as a rule, more slowly; those of recent origin may heal in from ten to thirty applications; chronic ones need a prolonged course of treatment. In these cases Doumer has recently emphasised the great importance of selecting a suitable electrode. Those of silver yield the best results, copper and nickel are decidedly inferior, whilst aluminium may even increase the patient's sufferings, at least temporarily. Electrodes in glass sheaths are also less satisfactory than plain silver ones. It is difficult to account for these facts, but there seems to be a good deal of evidence to support them.

So far as experience has yet been accumulated, it may be observed that the only contra-indication to the use of high frequency currents is a weak state of the heart, whether with or without valvular disease; whilst, as already mentioned, it does not succeed in cases of hysteria. But although this is so, the physician must remember that the agent is very powerful, and that its action should be very carefully observed and regulated during the whole course of treatment. Much of the discredit that has fallen upon electro-therapeutics has accrued because the carrying out of the details of treatment has too often been relegated to ignorant bath attendants, or to nurses who have received no special training for the work; and in the case of treatment by high frequency currents it is absolutely essential, if serious risks are to be avoided and satisfactory results obtained, that the whole course should be conducted by a fully qualified physician, who must himself be present at every séance. This, of course, involves a considerable demand upon the doctor's time, but unless he is prepared to give it, he is not justified in undertaking the treatment of the case.

LITERATURE.

A. Text-Books.

Denoyés, "Les Courants de Haute Fréquence," Paris, Baillière, 1902.
Williams, "High Frequency Currents in the Treatment of Some Diseases," London, Rebman, 1903.

B. Principal Papers in Foreign Journals for 1902 and 1903.

1. General—
Moutier, A., *Rev. internat. de thérap. phys.*, 1903, Feb. 15th.
Albert-Weil, E., *Journ. de Physiothérap.*, 1903, No. 7.
*Neumann, M., *Ztschr. f. Electrotherap.*, 1902, p. 339.

2. Diseases of Nutrition—
Gandil, Dr, *Bull. de la Soc. française d'Électrothérap.*, 1902, p. 120.
Saint-Perier, R. de, *Journ. de Physiothérap.*, 1903, No. 2 (abstract).
*Moutier, A., *Ztschr. f. Electrotherap.*, 1902, p. 338.

3. Diseases of the Digestive System—
   Bloch, G., *Bull. de la Soc. française d'Électrothérap.*, 1902, p. 144.
   Fouineau & Laquerrière, A., *ibid.*, 1903, p. 140.
   Sala, G., *Ann. d'Électrobiol.*, 1903, p. 68.
   *Billinkin, *Ztschr. f. Electrotherap.*, 1902, p. 345.

4. Diseases of Skin, etc.—
   Laquerrière, A., *Bull. de la Soc. française d'Électrothérap.*, 1902, p. 94.
   Chatin & Druelle, *Journ. de Physiothérap.*, 1903, No. 4.
   *Bergonié, *Ztschr. f. Electrotherap.*, 1902, p. 345.
   *Bordier & Collet, *ibid.*, 1902, p. 344.

The references marked with an asterisk are abstracts of papers read at the Second International Congress for Electrotherapeutics, held in Berne during September 1902.

SURGERY

GENITO-URINARY SURGERY

By DAVID WALLACE, C.M.G., F.R.C.S.Ed.

ATTENTION has already in this journal been directed to the assistance which cryoscopy gives in determining the functionating power of the kidneys in those cases where there is doubt regarding the ability of a patient to undergo a severe renal operation. Hitherto only a small number of observations have been reported, and these chiefly by European surgeons, more especially Claude and Balthazar, Caspar and Richter, and particularly Kümmel. A recent paper by Martin B. Tinker, in *Johns Hopkins Hospital Bulletin* (June 1903), deserves attention, as he reports the results of this method in a considerable series of cases. In the first instance, the blood of twenty-five patients in the wards of the Johns Hopkins Hospital, who were in a normal condition so far as their kidneys were concerned, was taken, and the results of the freezing-point determinations and usual routine tests of the urine were compared. The modified Heidenhain apparatus was used. "The series of cases tested gave surprisingly uniform results. The blood in twenty-three out of twenty-five cases froze at exactly 0.56° C. The samples of blood examined were taken from patients of nearly every possible combination of age, sex, colour, occupation, and condition of health. In the two remaining cases there was a variation of but $\frac{1}{100}$ degree centigrade, which is within what has been found to be normal limits. Three cases of pus kidney which came to necropsy later were examined and in each the variation of the freezing-point from the normal was quite striking." In one of these three cases the freezing-point of the blood was 0.71° C. The patient passed a fair quantity of urine, but the percentage of urea was low, specific gravity 1010, and it

contained pus cells, some blood and shreds of mucus. He died with typical symptoms of uræmia. The anatomical diagnosis was hypertrophied prostate, pyonephrosis and multiple abscesses of both kidneys. The results of cryoscopy in all three cases agree entirely with those of Koranyi and his pupils. Dr Tinker concludes that, "while it is desirable that information be obtained from as many sources as possible of the condition of the kidney before extensive operations, the cryoscopic test has proved so reliable in the hands of numerous observers and is so much simpler than many of the methods which have been employed, that it would seem that it alone might be relied upon to determine the condition of the kidney provided it is possible to obtain specimens by catheterising both ureters." The above sentence refers to cryoscopy of the urine in contradistinction to that of the blood, and where the urine from each kidney can be got and thus tested the relative freezing-point is of value in locating the kidney which is mainly at fault, but there is unfortunately the risk incident to ureteral catheterisation. This, however, can now in most cases be avoided by using the separator introduced by Cathelin. An objection has been urged against cryoscopy, namely, the difficulty in and the time required for examination, but if the test-tube containing the blood or urine be placed at first directly into the salt and ice mixture until the mercury comes down out of the reservoir bulb much time is saved and the test is not invalidated. When the mercury has come down thus far the test-tube is placed in the second tube, which acts as an air chamber. When one considers how frequently in renal cases of long-standing, nephrectomy is followed by a fatal result, obviously from renal inefficiency, it seems undoubted that this means of ascertaining the prognosis should not be neglected. The procedure required to obtain the necessary quantity of blood is very simple and not unduly alarming to the patient. The technique of the examination is simple and the cases quoted by Kümmel and others are so striking that we are bound to adopt it in any doubtful case.

Malignant Disease of the Prostate is, as a rule, primary, but secondary infection may occur from the bladder or rectum. The question of the relationship between prostatic and bladder tumours has been much discussed, but the idea that the latter are usually secondary to prostatic growths is now generally discarded, and the opposite view that prostatic growths are usually secondary to vesical tumours seems equally improbable. A paper by Dr Montfort (*Ann. des mal. des org. urin.*, June 1903) is devoted to this latter part of the question and repays perusal. The subject of malign tumours of the prostate until

recently was, as a rule, dismissed in text-books in a few sentences, in which it was remarked that the prostate in young boys was very occasionally the seat of a rapidly growing sarcoma, while in advanced life prostatic carcinomata were infrequently met with; that the symptoms in both were obscure, and that operative treatment was wholly valueless. Lately more attention has been devoted to the subject, and it is now particularly of interest as direct operative treatment for the removal of hypertrophied prostate has become the fashion, and met with such success. Engelbach in a thesis entitled "Malign Tumours of the Prostate" reflects the experience of the Necker School. Out of 700 cases seen in consultation at the Necker Hospital, 4 were examples of prostatic carcinoma. He corroborates what has previously been observed, that infancy and old age are the periods of election for malignancy of the prostate. In 55 cases there were 48 carcinomata and 7 sarcomata. Usually the whole gland was affected and not merely one part. The carcinoma is of two types, the hard, small (circumscribed) tumour, and the soft, very large (diffuse) form. In the latter there is rapid invasion of neighbouring structures and secondary glandular infection. Symptoms are, as a rule, insidious, but two characters are very usual, hæmaturia and pain. Pain is an important symptom — often spontaneous in onset and not infrequently referred to the sacral region, and increased by defæcation. Indeed defæcation is sometimes markedly interfered with, as the tumour tends to bulge into the rectum to a considerable extent. The diagnosis is difficult, as simple enlargement is so closely simulated; but the symptoms alluded to help in the differentiation. The difficulty is naturally chiefly in the early stage, just when the likelihood of successful treatment obtains. Unfortunately no certain method of differential diagnosis can at present be advanced. The prognosis is always grave, but treatment cannot now be looked upon as so hopeless as a few years ago it was thought to be, and in this connection a paper by Dr Graison (*Ann. des mal. des org. urin.*, May 1903) is of interest. Albarran and Halle in 1900 described a form of circumscribed prostatic cancer which they stated to be not uncommonly present in supposed cases of simple adenomatous enlargement. In 100 cases of apparently adenomatous prostate they found evidence of epitheliomatous disease in 14, and advanced the view that simple tumours (adenomata) became malign (carcinomata), a view which Albarran had previously advocated in regard to vesical neoplasms. This is a debatable question, but the observations of Albarran and Halle have a bearing upon operative treatment in malign prostates, as if such a change can occur in an adenomatous prostate, it is an incentive

to the operation of prostatectomy rather than the adoption of a palliative measure. Graison refers to the literature of the subject, and points out that opinion hitherto has been almost universally against operative interference, and that where operation has been resorted to, a disastrous result has usually followed. He then quotes 3 cases, *in extenso*, operated upon by Pousson, in which the condition of the patients was much improved—their pain being got rid of and the hæmaturia arrested. The operation adopted was perineal prostatectomy (intracapsular).

This subject is deserving of consideration, and now that prostatectomy for simple enlargement can be performed with such good results, it is probable that operation in circumscribed carcinoma of the prostate by a similar method is likely to be followed by a great measure of success. Graison recommends intracapsular perineal prostatectomy. In those cases where the tumour is diffuse, and obviously cannot be excised, if the bleeding be profuse and frequency of micturition and pain extreme, much benefit may be derived by suprapubic cystotomy, and in some cases the actual growth of the neoplasm seems to be much retarded.

OBSTETRICS

By R. G. M'KERRON, M.A., M.D.,
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The Management of Labour in Contracted Pelvis.—In a paper contributed to the Medical Society of Munich, Mueller (*Münch. med. Wochens.*, February 10, 1903) discusses the management of labour with contracted pelvis in private practice. He first draws attention to the importance for the general practitioner of clear notions as to the method of treatment which should be adopted. At the same time he admits the difficulty of exactly estimating the factors on which the selection of one or other method should be based. The length of the conjugate is not of itself enough. It must be compared with the size of the fœtal head. This may best be done by pressing the head down as far as possible into the brim, while the internal hand ascertains what space there is between head and pelvis, or how far the widest diameter of the head, pushed almost past the promontory, projects over the symphysis. Repeated examinations, with an anæsthetic if necessary, should be made to avoid error.

In the management of contracted pelvis our main object is

to avoid perforation. This should almost always be possible where the narrowing is recognised during pregnancy. The line of treatment will be determined by the character of the pelvis. In minor degrees of contraction the author recommends a trial of Prochownick's plan of retarding fœtal development by placing the mother on a restricted diet. This treatment, which should be begun in the fifth or sixth month of pregnancy, consists in diminishing the quantity of fluids and of carbohydrates, while allowing a sufficiency of nitrogenous food and fat, and has the effect of retarding ossification as well as the general development of the child. Where the contraction is too great for this method to promise success, the choice will lie between the induction of premature labour, and Cæsarean section at or near term. In regard to the former, the author points out the tendency to wait too long in primiparæ where there is not a history of previous labours to guide us. During the last two months of pregnancy the relations of head to pelvis should, at least once a week, be estimated in the way described. So long as the head can be pushed into the pelvic brim the induction of labour may be deferred.

Where the pelvic contraction is not discovered till the onset of labour, the difficulty of deciding on the line of treatment to be followed is often great. Only the knowledge obtained by a thorough examination will enable the practitioner to decide. If he concludes that delivery may be safely accomplished by the natural passage, he will have to decide whether he may wait and trust to the forceps, or whether he should turn. The choice is often influenced by the skill or individuality of the operator. For success in version more depends on practice and dexterity than in the use of the forceps. Judging from his own experience the author thinks that version will on the whole give the best results, and the general practitioner will usually be led to select this method owing to the dangers which attend delay. To ensure success, version should be performed early, not after the mother is exhausted by fruitless efforts and the child is *in extremis*.

Instead of resorting to version it may be decided to wait and rely on the forceps—or it may be that version is contra-indicated. When the head is favourably situated delivery can often be satisfactorily accomplished, provided traction is made in the right direction—well back on the perinæum till the head passes the brim. He prefers the ordinary forceps to the axis-traction instrument. In all cases he thinks the forceps should be tried before more energetic operations are resorted to.

The treatment which should be adopted when both version and forceps are contra-indicated is next discussed. There are

but two methods at our disposal, symphysotoimy and Cæsarean section. In regard to the former he agrees with Gigli (*Centralbl. f. Gynak.*, 1903, No. 48) that the dangers of the operation are out of proportion to its advantages. He admits, however, that in cases where Cæsarean section would be too dangerous, symphysiotomy would give the child a chance, but he would prefer to the classical operation the lateral incision recommended by Gigli.

As an alternative to version or the forceps, Mueller thinks that Cæsarean section should be employed in private practice only under exceptional circumstances. It should certainly never be resorted to after prolonged efforts with the forceps or when the mother is exhausted by a protracted labour. Where Cæsarean section is not contra-indicated and the only alternative is perforation, he thinks that the position should be explained to the mother and the decision left with her.

The Mechanism of Labour, and Instrumental Assistance when the Head is transverse in the Pelvic Brim.—Gillespie communicates an interesting paper on this subject to the Cincinnati Obstetrical Society (*Amer. Jour. of Obstet.*, January 1903). At the outset he draws attention to the importance of an exact knowledge of the mechanical relations of the head to the pelvis, and of the mechanism of labour, in all forceps operations with the head at the brim. Judging from text-book descriptions, he believes that the advantages of a differentiation of the causes of delay at the pelvic brim are not sufficiently appreciated. The importance of these is apparent, as their recognition implies a knowledge of the character of the pelvis, the factor which mainly determines the mechanism to be imitated in delivery with the forceps.

In transverse positions of the head, as pointed out by Goodell and demonstrated experimentally by Matthews Duncan, the resistance of the pubis is at first greater than that of the promontory, and the pubic side of the head is held back, the sagittal suture approaching the pubis. "As the labour progresses the head is pressed more firmly into the brim, the sharp promontory begins to indent the posterior parietal and it becomes the chief point of resistance." Rotation of the head then takes place round the promontory, the sagittal suture receding from the pubis while this movement is being executed. Goodell drew attention to the advantage of imitating this mechanism in delivering the after-coming head through a narrowed conjugate; and the chief object of the author is to show that a similar manipulation is often possible with the forceps. To effect it, however, he maintains that the forceps blades should be applied

at the sides of the child's head—antero-posteriorly and not laterally in the pelvis. The author points out that this can be accomplished more easily than would be imagined, owing to the fact that in the class of case under consideration the head approaches that side of the pelvis towards which the occiput is directed, leaving the other side comparatively free. This free space is taken advantage of in manipulating the right, or pubic, blade into position. The first blade is applied directly into the hollow of the sacrum, while the second or right " is applied upon it, and then by a spiral movement is brought through the right side of the pelvis, past the forehead, upon the anterior side of the head, until it rests under the pubic arch. If the sagittal suture is near the pubes the anterior blade must be inserted deeply, and the shank of that blade be brought well up under the pubic arch, the posterior blade, if necessary, being withdrawn and elevated to meet it." To fix the head, traction forward is first made, and then, " without relaxing your traction, swing the handles backward toward the sacrum." This secures rotation round the promontory, the head entering the pelvis with a jerk. At the same time flexion takes place, which necessitates a readjustment of the hold. This should be done by separating the blades slightly and carrying the handles towards the woman's left thigh (O.L.). " Again gripping the handles, you swing them forward in the arc of a circle, bringing the head into the oblique diameter of the pelvis, after which delivery is the same as in ordinary forceps cases."

The aim of this procedure is to imitate the natural mechanism; and at first sight it would seem that for this purpose the lateral hold of the head has a distinct advantage over that which is obtained by inserting the blades at the sides of the pelvis. We agree with the author that manœuvring the head through is preferable to the use of the axis-traction forceps. No doubt in the majority of these cases, as the author admits, version is superior to either form of forceps, but cases will not infrequently be met with in which version is contra-indicated or, for various reasons, unsuited.

The author draws a sharp distinction between cases of simple flat pelvis and those in which the narrowing of the conjugate is combined with an increased inclination of the pelvic brim, due to excess of the sacro-vertebral angle. The latter he believes to be the chief cause of posterior parietal presentations. Though explaining the different mechanism the author omits to note that in delivery with the forceps an exactly opposite procedure is necessary from that required in the anterior parietal form. Indeed, he states that " the same procedure is indicated as in the preceding class " (ant.-parietal).

Several cases are quoted in illustration of the author's method, but the evidence they furnish is far from convincing as to the superiority of the antero-posterior to the ordinary lateral application of the blades. Besides the rolling of the parietal bone round the promontory or pubes, there are two other movements essential to the mechanism in transverse positions of the head—the production of flexion, and rotation forward or backward of the occiput according as the anterior or posterior parietal presents. These movements are more readily facilitated by the ordinary oblique hold of the head.

It may, then, be regarded as doubtful whether the hold of the head recommended by the author possesses any advantage over that usually obtained, though it is worth keeping in mind in cases of exceptional difficulty.

OPHTHALMOLOGY

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On the connection of certain forms of Retro-Bulbar Neuritis with Diseases of the Vascular System (by Dr Franz Schieck, Göttingen, *v. Graefe's Archiv*, lvi. 1, page 116 *et seq.*). —In this paper Dr Schieck brings forward clinical evidence in support of his view that the essential pathology of retro-bulbar neuritis or toxic amblyopia consists in vascular degenerations affecting injuriously the nutrition of the nerve. The first case cited is headed "Chronic retro-bulbar neuritis on a syphilitic basis." The patient, æt. 35 years, had contracted syphilis in 1897, but under efficient mercurial treatment showed no secondary symptoms. The patient was first seen in 1901 on account of failing vision in both eyes said to have followed a chill. Patient stated that two years previously he suffered from impaired vision in both eyes, but that this passed off in a fortnight, though recovery was not quite complete. On this occasion he was treated with mercury and iodide without benefit, and becoming much worse after an attack of influenza came to hospital. On admission, external appearances normal, pupillary reaction normal, pallor of temporal halves of the discs, vessels of fundus unaltered, no pain or tenderness on pressing eye backwards into the orbit. R.V. = $\frac{6}{60}$, L.V. = fingers 2 metres. Fields, outer limits for white, normal; relative central scotoma for white extending in the right eye for about 10° round fixation spot, and in the left eye from 15° to 20°. Red and green nowhere seen with either eye. In R. eye

relative central scotoma for blue. A thorough inunction cure had no effect. Excess in tobacco and alcohol absolutely denied.

Dr Schieck considers the case to be one of chronic intoxication amblyopia induced by the poison of syphilis. He admits that hardly any cases of the kind have been described.

The second case he describes as "Unilateral retro-bulbar neuritis in myocarditis." Patient, æt. 32 years, a joiner, seen 1st November 1901. For twelve days noticed failure of vision in R.E., no pain or tenderness on pressure, no cause assigned, no syphilis, does not drink and has never smoked much. Says he has a heart lesion. On admission—both eyes normal outwardly. Fundi normal. R.V. = $\frac{1}{5}$ of normal. L.V. = 1. In right eye relative central scotoma for white extending about 20° round fixation spot. For colour the scotoma is absolute. In left eye normal field. The heart moderately dilated, no murmurs, action very irregular, diagnosis of myocarditis. Under treatment "Schwitzkur," Sod. Salicyl. KI., very rapid recovery. On November 30, R.V. = $\frac{5}{5}$ vix., all colours recognised but relative scotoma for 10° round fixation spot. On October 16th, 1902, no trace of scotoma, V = full, but temporal half of disc described as pale.

In considering the ætiology, Dr Schieck excludes tobacco, alcohol, syphilis or tubercle, and considers the visual defect due to a circulatory obstruction or disturbance of nutrition within the right optic nerve. The recovery he ascribes to the establishment of a collateral circulation.

The third case is described as "Unilateral retro-bulbar neuritis with suddenly occurring partial thrombosis of the central vein." Patient, a labourer, æt. 58. Seen 8th January 1900. For about a fortnight had noticed diminution of vision in left eye, sees things cloudy in the centre of the field, clearer toward the periphery. No syphilis. At one time a heavy smoker and drinker, but for thirteen years has restricted himself to a cigar and $\frac{1}{4}$ litre of spirits daily. The ophthalmoscope shows in the left eye the disc margins faintly obscured and veins somewhat swollen and tortuous. R.V. nearly full, L.V. = $\frac{1}{5}$ only. Fields R.E. normal, L.E. outer boundaries normal but small central relative scotoma for white and all colours. "Schwitzkur." 14/1/03, V. slightly improved = $\frac{1}{5}$. 19/1/00, in left fundus a great number of retinal hæmorrhages large and small, V. and field unaltered. 21/1/00, patient had to leave hospital and was not seen again till 14/2/00, when the vision of the left eye was found rather better, V. = .4. The relative central scotoma remained unaltered.

Dr Schieck points out that had such a case as this not been

seen till the bleedings occurred it would certainly have been classed among cases of venous thrombosis. A point on which he also lays stress is that the subjective symptoms were not altered at all by the occurrence of the hæmorrhages. Were changes in the ganglion cells the cause of the central scotoma, then the symptoms would certainly have got worse from involvement of the retina. These examples show, according to Schieck, that cases can occur with symptoms similar to intoxication amblyopia, yet where alcohol or tobacco is not the cause. In these cases a connection with vascular degeneration is in the highest degree probable. Further he argues that in cases of central scotoma from such causes as diabetes or lead the atrophy of the papillo-macular bundle is secondary to vascular change. He cites also cases of central scotoma occurring in women worn out with nursing, and thinks they may be best explained by supposing failure of nutrition in the centrally placed papillo-macular bundle of the nerve. He naturally, in order to explain a somewhat speculative theory, lays great stress on the central position of these fibres placing them in an unfavourable position as regards blood supply.

Embryological Investigations regarding the Mode of Origin of the Typical Congenital Coloboma in the Eye (by Professor E. v. Hippel, Heidelberg, *v. Graefe's Archiv*, lv 3, p. 501).—Professor Hippel has made an important contribution to this interesting subject, having submitted to most careful microscopical examination 23 eyes of fœtal rabbits showing this developmental defect. As showing the influence of heredity, a male rabbit with a congenital coloboma of the nerve and slight defect of iris and lower lid margin, transmitted a colobomatous defect to 18 per cent. of the eyes of its offspring. The stages of development at which the eyes were examined were the 13th, 14th, 15th, 16th and 18th days of intrauterine life and at birth. In the rabbit the cleft in the developing eye closes normally on the 13th day of fœtal life and its existence in an older fœtus is conclusive evidence of abnormal development. The fœtuses examined were immediately after removal from the mother dropped into Zenker's fixing solution. The heads were stained *en bloc* and cut serially in paraffin, mostly in a direction perpendicular to the axis of the cleft. The following may be stated among von Hippel's more important conclusions:—

(1) The coloboma arises from failure of closure of the fœtal cleft, this being due to the mechanical intervention of a vascular layer of mesoderm lying between the edges of the cleft. (2) The coloboma is already present before choroid and sclera are differentiated, so that the defect in them is quite secondary.

(3) Inflammatory changes certainly play no part in the process. (4) The only known ætiological factor is heredity. The actual cause of the abnormal growth of the mesoblast is unknown. Microphthalmus arises when there is deficient development of vitreous from an over cellular mesoblast. If this mesoblast also intervenes between the edges of the cleft, we get an associated coloboma.

Many other points of interest are raised by von Hippel and the views and observations of other writers are fully discussed.

Sympathetic Ophthalmia as a Metastasis (*v. Graefe's Archiv*, lv. 2, by Dr Paul Römer, Würzburg).—Recently there has been an undoubted tendency among ophthalmologists to question the soundness of the optic nerve theory of infection in sympathetic ophthalmia. Dr Römer comes forward as an avowed opponent of this theory, bringing forward once more the theory of a metastatic infection by way of the general circulation. He assumes that the disease can only be due to an infection of the eye by a micro-organism as yet undiscovered. What we require to know is the path of infection and the conditions under which infection takes place. As the organism as a whole does not appear to suffer to any evident extent from the organism assumed as the cause of sympathetic ophthalmia, a further assumption is necessary, viz., that the organism is specific for the eye, but indifferent for the organism as a whole. Dr Römer cites trachoma as a disease probably due to an organism of this nature. The importance of reflex irritation as causing or at least strongly predisposing to a sympathetic inflammation has been dwelt upon by some, but Dr Römer is strongly opposed to these views, and criticises sharply the conclusions of Moll, Schmidt-Rimpler and others. Only two paths of infection appear at all possible on clinical and anatomical grounds, viz., the optic nerve with its sheaths and the blood stream. The absence of any symptoms of meningitis or spread of the inflammatory process to the base of the brain affords strong evidence against the view that the organisms spread from one eye to the other along the sheaths of the optic nerves. Dr Römer goes over Deutschmann's work in detail, subjecting his conclusions to severe criticism and denying that his experiments are in any way conclusive when applied to the question of sympathetic ophthalmia in man. To make an experiment have any real weight the animal should not show any signs of general septic infection, and it should be possible to demonstrate clearly the propagation of the organism from one eye to the other by way of the nerves. This has never been actually done. Another great objection to the optic nerve theory of transmission

is the well-established clinical fact that sympathetic ophthalmia very often appears to begin in the iris and ciliary body of the sympathising eye, the optic nerve being little if at all affected. This fact has never been satisfactorily explained by those who hold that the optic nerve is the path of infection. Dr Römer therefore thinks we must consider sympathetic ophthalmia as a metastasis following an infection of the blood stream from the injured eye, the infective agent being pathogenic for the eye only. This hypothesis, he maintains, best explains the clinical facts, and is not at variance with our newer bacteriological knowledge. Dr Römer speaks of publishing shortly an account of extensive experimental researches which favoured the theory of metastasis.

On Paraffin Protheses in the Orbit (by Dr E. Hertel, Jena, *v. Graefe's Archiv*, lv. 2).—Much has been written lately regarding the wonderful cosmetic results achieved by injections of paraffin, and this method has naturally been put on trial in ophthalmic surgery. Dr Hertel has made a large number of experiments on the rabbit in order to determine the best method of using paraffin to provide a stump for an artificial eye. He found that injection of paraffin with a melting-point of 40° C. into the healed socket after enucleation in the rabbit, although it caused very little reaction, failed completely to provide any sort of prominence to act as support for an artificial eye. Two rabbits died of embolus immediately after the injection was made, thus emphasising the possible risk of injecting a paraffin of so low a melting-point into the tissues. In a second series of experiments Dr Hertel used the principle of Mules' and Kuhnt's operations, substituting paraffin balls with a melting-point of about 78° C. for glass. These masses of paraffin, weighing about 1½ grammes, were in some cases put into Tenon's fascia immediately after enucleation and cessation of bleeding. The fascia and conjunctiva were then stitched over them. In other three cases slightly smaller masses were introduced into the scleral sac after evisceration, just as in Mules' operation. The results in these cases were most satisfactory, except in one case in which panophthalmitis was present at the time of the enucleation. In this animal the paraffin ball inserted into Tenon's space was extruded in a few days. As Hertel points out, eyes are seldom removed with conjunctival and orbital tissues free from inflammatory change, and therefore in ordinary clinical work such operative procedures as the above are often inapplicable. He therefore tried further experiments to see whether he could improve the socket left after an enucleation by subsequent injections of paraffin of a high melting-

point. Paraffin with a melting-point of 60° C. was quite well borne by the tissues. A metal syringe with a jacket through which hot water circulated was used to make the injections. Some improvement in the sockets followed, but this method did not give nearly so good cosmetic results as the modification of the methods of Mules and Kuhnt. As an addition to the experimental work, Dr Hertel gives an interesting account of the examination of the orbital tissues and the paraffin masses lying in them in cases operated on from twelve to fifteen months previously. The soft paraffin he found had penetrated deeply and irregularly between the different layers of the orbital tissues. Evidences of old inflammatory reaction more or less intense were always present. The harder paraffin had spread much less and lay in more compact masses. Dr Hertel finds that paraffin is to a slight extent invaded by the tissues in which it lies, so that a very slow absorption takes place.

Dr Römer's second paper has just appeared (*v. Graefe's Archiv*, lvi. 3, p. 439, *et seq.*), **Experimental Investigations on the Question of the Transference of Irritation in Sympathetic Ophthalmia.**—The modern ciliary nerve theory assumes that, as a result of the inflammatory process in the first eye, reflexly through the medium of the ciliary nerves, there are created disturbances in the circulation and nutrition of the sound eye, so that it becomes a "locus minoris resistentiæ," and a fitting soil for the reception of germs or their products. The source of these germs, whether derived from the first eye or from other sources, does not matter so far as the theory goes. The method of experiment usually employed has been to irritate one eye by a foreign substance, *e.g.* croton oil or a fragment of copper introduced into the anterior chamber; then to inject organisms into the general circulation and note whether the other eye showed metastatic infection more frequently than in control animals similarly injected but with the eyes untouched. A great objection to all these experiments has been that they caused a septicæmia, producing conditions not at all similar to sympathetic ophthalmia as observed in man. With a milder infection, experimenters, notably Stock, have found that the frequency of metastases in the control eyes was not less than in the others, and in some series even greater. Römer thinks therefore of other modes of experimenting, condemning the older methods as crude. Wessely had shown in the rabbit's eye that by irritating the ciliary nerves of one eye the aqueous secreted by the other eye did not become more albuminous. The determination of albumen and the comparison of quantities while dealing with such small amounts present obvious difficulties and

uncertainties. Römer, therefore, following up some further work of Wessely, has experimented on the hæmolytic action of the aqueous under normal and abnormal conditions. He experimented first and mainly on rabbits immunised with intraperitoneal injections of ox blood. Wessely had showed that after active immunisation with blood cells the hæmolysines were not secreted into the normal aqueous. Repeating these experiments, Römer found that no hæmolysines were secreted into the normal aqueous, but after the fifth day of immunisation they appeared in the regenerated aqueous, *i.e.* aqueous drawn off from the anterior chamber three-quarters of an hour after puncture. According to Römer this gives us the most delicate way of determining whether irritation is affecting an eye, viz., to test the hæmolytic power of its aqueous. Römer further proves by careful experiment that in the immunised rabbit, both amboceptor and complement are absent from the normal aqueous, but both present in the regenerated aqueous; also after subconjunctival injection of saline solution he found the complement showed itself in the normal aqueous. Wessely supposes this due to the irritant action on the ciliary body. The hæmolytic action of the aqueous of immunised rabbits becomes also very strongly developed if the eye in question be irritated, *e.g.* from copper in the anterior chamber or dead bacilli in the vitreous. In the second eye, however, the aqueous shows no power of hæmolysis until after puncture and refilling of the anterior chamber. Römer produced, by using the hay bacillus, a chronic non-suppurative iritis in immunised rabbits. These bacilli do not produce a septicæmia in the rabbit, and so conditions were produced closely simulating those present in an eye likely to cause sympathetic ophthalmia. In no case did the normal aqueous of the second eye acquire even a trace of hæmolytic action. Further, the hæmolysines which appear in the regenerated aqueous quickly disappeared. As objections might be urged on the ground of the rabbit not giving conditions closely allied to those in man, Dr Römer experimented on four monkeys. As in the rabbit he found the aqueous showed no hæmolytic action until regenerated after puncture. In two monkeys he produced a severe iritis with the hay bacillus. No hæmolytic action was developed by the normal aqueous of the other eye.

Römer therefore has succeeded in showing by novel and delicate experimental methods that the secretion from the ciliary body of the second eye is not altered by irritation of the first. In a later part of the paper Dr Römer is found attaching great importance to "Disposition" of the individual as determining whether a person presumably inoculated in one eye with

an organism capable of causing a sympathetic ophthalmia shall develop the disease or remain immune. He promises a further article on the question of how the organisms of sympathetic ophthalmia get into the blood stream.

New Books and New Editions

Nothnagel's Practice. Diseases of the Stomach. By FRANZ RIEGEL. Edited with additions by CHARLES G. STOCKTON, M.D. Authorised Translation from the German, under the Editorial supervision of ALFRED STENGEL, M.D. Philadelphia, New York, London: W. B. Saunders & Company. 1903.

NOTHNAGEL'S Practice consists of a series of monographs, published in German, from the pens of distinguished Continental teachers. The English reader will welcome the English edition of Professor Riegel's work on diseases of the stomach. The translator has done his work well, and the simple language and clear diction of the original text is maintained. Riegel's work on diseases of the stomach is well known to many. The present volume is an admirably clear and graphic account of the modern views of digestive disorders, and should prove a boon to the English physician, covering as it does ground that has been somewhat neglected by practitioners in this country. The author's experience has been extensive, and he draws on it freely for the benefit of the reader. Throughout the text, references are given, and a full bibliography is placed at the beginning of each chapter. References to the work of other observers are full and detailed. The work has lost nothing in value, has gained in fact, by the editorial notes which are placed in the text. We can heartily recommend the volume; even though bulky it will well repay perusal. It is a graphic and comprehensive monograph on a subject which, alike to the sufferer and to the physician, is of the highest importance.

Diseases of the Liver, Pancreas and Suprarenal Capsules. Nothnagel's Encyclopædia of Practical Medicine. English Edition. Authorised Translation from the German under the Editorial Supervision of Professor Alfred Stengel. 918 pp. Philadelphia, New York and London: W. B. Saunders & Co. 1903.

THE volumes of Nothnagel's Encyclopædia have been well known to those who read German. We welcome, however, a translation, as such will appeal to a much wider audience. The

original works have been brought down to date also, for in this edition published in America, the editors of the different sections have made such additions as they thought necessary to bring each article fully up to the most recent advances and to adapt them generally to the needs of English readers. The general editor pays a tribute to the value of the original work done by Dr Frederick A. Packard, who edited the section dealing with the Diseases of the Liver and who died while the volume was going through the press.

The sections dealing with the Pancreas and the Suprarenal Capsules have perhaps a greater interest to the general reader than that dealing with the Liver. The ground relating to the physiology and pathology of the former was until comparatively recent years left untouched, and the discoveries of observers as to the functions of these glands has only served to increase our interest in their pathology. Professor Oser says that though pathological material is only sparingly at the disposal of the clinician, yet experiments on animals have afforded much information regarding the development and progress of many diseases which affect the pancreas. Such conditions as abscess, hæmorrhage, induration, necrosis and fat necrosis have been produced in animals. The course of each could be watched during life and the histological condition made out after death. Elaborate details of hundreds of such experiments are given, but one must confess to a great disappointment in that they lead up to no practical results as regards treatment short of surgical interference. They are more interesting from a physiological than from a therapeutical point of view.

Mr Mayo Robson's work on the pancreas is noted with approbation, and especially is his investigation into the ætiology and treatment of chronic pancreatitis. Dr Fitz, the editor, states that Mr Robson's observations are a most significant addition to those of Opie concerning the influence of gall-stones in the ætiology of acute pancreatitis. The article on Fat Necrosis is very satisfactorily dealt with and interesting experiments are detailed as to the artificial production of this disease. Recent investigations have confirmed the observations of Langerhans that fat necrosis can be produced by the contact of the constituents of the pancreas with fat tissue, and go to show that his idea was correct—that the fat-splitting ferment of the pancreatic juice causes the necrosis by separating the fat into fatty acids and glycerine. It would appear that the bacillary idea of the disease has been abandoned. As an illustration of the extreme thoroughness of the work, it may be mentioned that an abridged bibliography dealing with the pancreas alone extends to more than thirty pages.

With Professor Neusser's monograph on the suprarenal capsules, the editor has incorporated recent investigations on the active principles of suprarenal extract by Abel, Crawford, von Fürth, Takamine and others. The almost universal testimony of experimenters goes to prove that the suprarenal glands are essential to life. When both are removed the animals invariably die, though they may live for a varying length of time.

Diseases of the Liver occupy by far the largest part of the volume, as we should expect from the importance of the organ. The various affections are ably treated of by Professors Quincke and Hoppe-Seyler.

The volume is an excellent example of the thorough way in which our confrères in Germany do their work, and the present treatise will form a valuable book of reference to the scientific physician.

Pregnancy, Labour and Child-bed, with Ovarian Tumour. By R. G. M'KERRON, M.A., M.D., Physician to the Maternity Hospital; Assistant to the Professor of Midwifery in the University; Senior Physician, Royal Hospital for Sick Children, Aberdeen. Pp. 281. London: Rebman Ltd. 1903. Price 7s. 6d.

THOSE who want to know all that is to be known about ovarian cysts in their relation to the phenomena of labour, pregnancy and the puerperium, will find what they are looking for in Dr M'Kerron's exhaustive monograph on the subject. The work is founded upon a thesis presented for the degree of M.D. in the University of Aberdeen in the year 1898, and the records of fresh cases which have been reported since that year have now been incorporated and the whole subject brought up to date.

The book is divided into an introduction and three sections. The introduction deals with the influence of pregnancy on the origin and growth of ovarian tumours, and it is maintained that pregnancy is a preventive, rather than a cause of ovarian disease, and that it neither accelerates the growth of the cysts, nor favours the occurrence of degeneration in them. The first section is devoted to the consideration of pregnancy with ovarian tumour, the second to labour with such tumours, and the third to the puerperium with them. In these three sections a great many interesting points are considered, of which those which deal with the puerperium are perhaps the most novel. Dr M'Kerron believes, from a comparison of the collected

cases, that in all cases, complicated and uncomplicated alike, ovariotomy should be performed as early as possible in the puerperium. He lays stress upon the risk of coincident infection of the cyst in labour, and he advises that in dangerous puerperal peritonitis, even when no definite tumour can be made out, an exploratory laparotomy is advisable, because an unsuspected ovarian tumour has on several occasions been thus discovered and removed. The last suggestion may be good treatment, but it has to be borne in mind from the experience of the post-mortem room that the laparotomist is as likely to meet with a pus-tube as with an ovarian cyst under these circumstances.

The most valuable part of the book consists of the carefully prepared and comprehensive tabular statements founded upon the cases collected from literature; and the conclusions founded upon these and placed at the end of the separate sections are very helpful. The index is good, and the bibliography has evidently been prepared with more than the usual amount of attention to the correct spelling and punctuating of the foreign references. Almost the only fault we have to find is with the distribution of the capital letters in the German and French names of journals, and it is not often that a reviewer finds nothing more serious than this to complain of. Dr M'Kerron is to be congratulated on having written a thoroughly sound work on an important complication of the pregnant, parturient, and puerperal state; it ought to find its way into the library of every specialist in Midwifery and Gynecology.

A Practical Handbook of Midwifery. By FRANCIS W. NICOL HAULTAIN, M.D., F.R.C.P.E. Pp. 253. London: The Scientific Press, Ltd., 1903. Price 6s. net.

PRACTITIONERS as well as students will welcome a second edition of this useful little handbook, the value and merits of which were at once recognised on its first appearance nine years ago. The manual has been thoroughly revised and brought up to date. Though there is little increase in the size of the volume, the text has undergone considerable alteration. Due recognition will be found of all the more important advances which have recently been made in obstetrics.

The handbook takes the form of a synopsis, and does not profess to give a full account of the subjects treated. At the same time few points of any importance are omitted. The treatment of the more serious and urgent complications and

operations in midwifery is clearly and concisely stated. Obsolete methods are excluded, while the indications for, and the relative importance of the methods of treatment which are still in use are emphasised.

For purposes of reference and as a means of rapidly ascertaining the principles and more important measures of treatment in urgent obstetrical complications, Dr Haultain's manual will prove a practical help to junior practitioners. It is to the student, however, that its utility will be greatest. In assimilating the information that is day after day served up to him, the student is compelled to make some kind of abstract of the more important points—and here he has exactly what he wants, a sound and reliable synopsis or groundwork to be filled in from lectures and text-book.

The volume, which is of a convenient size, is well arranged, well printed, and prettily bound.

The Manual Treatment of Diseases of Women. By GUSTAF NORSTRÖM, M.D., of the Faculty of Stockholm. Pp. 230. New York: G. E. Stechert. 1903. Price 10s.

THIS book contains a great deal of special pleading in favour of massage in gynecology The author is absolutely persuaded of its value, and he has gathered together the opinions of the writers who are like-minded. The particular method of massage employed is Brandt's, and the reader must be prepared to find the treatment recommended for a wide range of diseases, including all the chronic inflammatory disorders, subinvolution, prolapse, and fibroids. The last paragraph of the book suggests a still further expansion of its alleged range of usefulness. It is as follows:—"In conclusion I must make mention of one other application of massage, namely, after *hysterectomy*, especially vaginal, in order to hasten the resolution of post-operative disorders, which sometimes exist even in the most favourable cases, and which annoy a great many patients who believe that after the operation they ought to be free from all symptoms." There are no illustrations, and altogether the book, which has only paper covers, is not cheap at the published price of ten shillings. Massage has a sphere of usefulness in gynecology, but it is not nearly so large as the author makes out, and there are objections to its employment which cannot be got entirely rid of in the manner suggested by Dr Norström of doing it "under the clothes."

Diseases of the Skin. By MALCOLM MORRIS. New Edition. Pp. 642. London: Cassell & Co., Ltd. Price 10s. 6d. net.

MR MORRIS' book has been out of print for some time, but other engagements have prevented him from giving time to this new one.

There are some changes. The coloured plates have disappeared. This, we think, is a pity. Though not exactly works of art, still they were useful to the student, much more so than the drawings of the bacilli of tubercle, leprosy, anthrax, etc., with whose appearance all students should be familiar.

Like everything Mr Morris turns out, the book is eminently practical, and contains numerous hints and suggestions which are of the greatest value to the expert, for we are of the same opinion as when reviewing the last edition, that it is of more value to him than to the beginner.

There are a number of illustrations of varying degrees of merit and usefulness.

We think space might have been spared to give fuller details of the electrical treatment of lupus and other diseases. No doubt most of the practitioners who will read the book are members of the British Medical Association, but we question whether the majority will be able to lay ready hands on the *Journal* for 30th September 1899, to which they are referred for particulars.

The best pages in the book are those on the treatment of eczema. With almost every word on them we cordially agree, and everything is expressed in the clear, pithy way which one always associates with Mr Morris. "The less drugging the better." "The practitioner must clear his mind of the superstition as to this matter (diet)." "The excessive 'lowering' diet . . . is positively contra-indicated." "Alcohol should be prohibited."

We wish the book the same success as its predecessors.

A Pharmacopœia for Diseases of the Skin, is the title of the Fifth Edition of a little book of 64 pages published by Messrs Wright & Co., Bristol, at a cost of half a crown.

IT consists of a preface in which we are told that a student or practitioner "by a few months attendance, with moderate application, on the practice of the London Skin Hospital, Fitzroy Square (the number is not given), may acquire a reliable diagnosis, which neither plates nor description can teach." Then

follow thirty pages of prescriptions, most of which are followed by a line or two giving a list of the diseases in which they are useful, *e.g.* "useful in papular, parasitic, sebaceous, and ulcerous affections."

General directions include one to avoid soaps of any kind.

Classification takes twelve pages. Under cachectic eruptions come cancer, leprosy, yaws, lupus, and rodent ulcer; rhinoscleroma is classed with neuroma, etc., as a neoplasm. There is a special class for syphilis (Class xv.), but it appears again along with rodent ulcer, anthrax ulcer, and lupoid ulcer in Class xvii. (Ulcerous).

The book is completed by a "Therapeutic Index" which has apparently never been read over, for one refers to about half of the cross references in vain.

How the booklet has gone through four previous editions is a mystery. All the useful information contained in it is supplied gratis every Christmas by those large drug firms which present to each member of the profession a visiting list.

Nothnagel's Practice of Medicine, Diseases of the Bronchi, Lungs and Pleura. By Prof. Dr FRIEDRICH A. HOFFMAN Professor of Medicine in the University of Leipzig; Prof. D. O. ROSENBACH, of the University of Breslau; Dr E. AUFRECHT, Chief of Clinical Medicine in the Magdeburg Altstadt City Hospital. Edited, with additions, by JOHN H. MUSSER, M.D., Professor of Clinical Medicine in the University of Pennsylvania. Authorised translation from the German under the editorial supervision of ALFRED STENGEL, M.D., Professor of Clinical Medicine in the University of Pennsylvania. Pp. 1029. Philadelphia and London: W. B. Saunders & Company. 1903. Price 21s.

THE quality of the series of monographs included in this volume fully sustains the high reputation of the distinguished authors; while those who are unfamiliar with German are placed under a heavy debt of gratitude to Dr Musser, the editor, and Dr Stengel, the translator, for the manner in which they have presented them to the English reader. The section on Diseases of the Bronchi opens with an up-to-date account of the Anatomy and Physiology of the Bronchial Tubes, followed by a very complete article on Foreign Bodies in these tubes, their recognition and treatment. The author then sets forth the varieties of Bronchitis, their Pathology, Bacteriology and Treatment.

Under the heading of Fibrinous Bronchitis, the various micro-organisms that may give rise to this disease are passed in review, and illustrative cases cited, the position being taken that there are still a certain—though rapidly diminishing—number of cases that must be classed as primary or idiopathic. The Causation of Bronchiectasis is next discussed, and the conclusion arrived at that the two factors which work together to produce it are stenosis and continuous excess of pressure. An interesting account of Asthma is introduced, with special reference to Fraenkel's work on the causation of the malady, and the importance of the presence of Eosinophile cells in the sputum and blood. A long chapter on Emphysema follows, the author entering fully into its varieties, their causation, symptomatology, complications, diagnosis and treatment. The section is closed by a short account of Pulmonary Atelectasis. In the section on Inflammations of the Lungs, the Bacteriology of Croupous Pneumonia is fully considered, the author holding the now generally accepted view that the cause of the disease is the diplococcus pneumoniæ, primarily found in the lungs, and only secondarily found in the blood, and that the cause of danger and death is the resulting toxæmia specially acting on the heart muscle.

Special reference is made to recent work on the examination of the blood and urine in Pneumonia. In regard to the treatment of Pneumonia the methods in vogue since the days of antiphlogistics are analysed, serum treatment is fully considered, its results up to date being tabulated, infusion of saline fluid is alluded to, while great stress is laid by the author on the prime value of subcutaneous injections of quinine in combating the toxæmia of this disease. In the chapter on Catarrhal Pneumonia, the author's views on the pathogenesis and bacteriology are fully stated. Atypical Pneumonia is next discussed, the various micro-organisms found are detailed, and the opinion expressed that the best basis of classification of these cases is clinical, not bacteriological. Chapters on Hypostatic Pneumonia, Aspiration Pneumonia, Desquamative Pneumonia, Syphilitic Pneumonia, Pneumonokoniosis, Chronic Pneumonia, and Carcinoma of the Lungs are included.

Embolism, Thrombosis and Infarct, Abscess and Gangrene of the Lungs next come under review. The surgical treatment of pulmonary affections is discussed with fairness and impartiality.

In the section on Pleurisy the most recent researches on its bacteriology are given, the author inclining to place more reliance on what he calls the soil than on the various forms of micro-organisms met with as causative of the disease. Morse's views on the part played by the leucocytes, the use of X-rays in

diagnosis, the Litten phenomenon, are all brought under notice. The chapter on Pneumothorax completes the volume.

Very valuable are the additions of the editor, Dr Musser, freely interspersed throughout the whole volume, and serving to bring the various articles fully up to date. The excellent and complete Bibliography attached to the various sections must also be gratefully acknowledged.

The perusal of this volume is very satisfying, the impression produced on one's mind being that the various subjects have been fully, fairly and clearly treated, and that one may with pleasure and profit return to them for reference time and again.

The Principles of Bacteriology. A Practical Manual for Students and Physicians. By A. C. ABBOTT, M.D., Professor of Hygiene and Bacteriology, and Director of the Laboratory of Hygiene, University of Pennsylvania. Sixth Edition. Pp. 641. London: H. K. Lewis. Price 12s. 6d. net.

A MANUAL of bacteriology, which has reached its sixth edition within eleven years, is doubtless one which furnishes the student with the information he desires. In the new edition of Abbott's Manual, the author has taken the opportunity of revising and extending many sections of the work. About half the Manual is devoted to bacteriological methods, and this is certainly the best part of the work. The methods of sterilisation, isolation, staining, and experimental inoculation are carefully described in detail. One must, however, note that the description of Gram's method of staining conforms neither to the original method of Gram nor to any of its subsequent modifications; and if the method of staining described by the author were followed, one fancies that the results would be somewhat unreliable, whilst it is moreover erroneous to suppose that Gram's method is useful in demonstrating bacterial capsules. Gabbett's stain for the tubercle bacillus is described, but in this section of the book the unreliability of the method is not referred to, and the unwary student is therefore encouraged to employ a method which may lead to grave error in diagnosis, especially if he be examining urinary deposits.

The description of the individual bacterial species would for the most part be good, were there fewer errors and were not too many facts of no little importance omitted. Thus, colonies of staphylococci are stated to be coarsely granular and those of streptococci finely granular, whereas the reverse is the case; no reference is made to the involution forms of B. pestis or to

Haffkine's valuable work on immunisation against bubonic plague; the description of the cultures of the diplococcus pneumoniæ and the influenza bacillus are distinctly poor, and no mention is made of Piorkowski's medium for the isolation of B. typhosus. The most striking defect, however, which detracts greatly from the usefulness of the Manual, is the entire omission of any account of many important bacteria such as Friedländer's bacillus, B. subtilis, proteus vulgaris, B. enteritidis sporogenes, B. aerogenes capsulatus, Koch-Weeks' bacillus, and others. The important subject of infection and immunity, however, is adequately and admirably dealt with, and the study of water, air and soil is treated of towards the close of the volume. It is thus evident that the Manual is not intended for the more advanced worker, but in affording a general knowledge of the principles of bacteriology it should be useful to the student commencing a study of the subject.

Elementary Bacteriology. By M. L. DHINGRA, M.D., C.M. Edin. Pp. 145. New York and Bombay: Longmans, Green & Co. 1903. Price 3s. net.

THIS small work on elementary bacteriology is one intended for the use of Indian students and practitioners. When a subject such as bacteriology is disposed of in 145 pages, the treatment of the subject must be of necessity not merely concise but sketchy; and yet, in spite of this, the author's account of the pathogenic bacteria, fermentation, putrefaction, antiseptics, and so forth, is very satisfactory, and erroneous statements are uncommon. We cannot, however, endorse the statement that after the intraperitoneal injection of tubercle bacilli there are no local manifestations, or that many saprophytic bacteria flourish at the boiling temperature. The author, striving after conciseness, occasionally becomes ambiguous. Thus we are told that a useful method of sterilising apparatus is to wrap the apparatus in cotton wool and apply heat until the wool is singed; and again, that alcohol is despised by bacteria. With few exceptions the illustrations are taken from Curtis's "Essentials of Practical Bacteriology." Gram's method of staining is accurately described, but there is no mention of a counterstain such as fuchsine, the use of which is of immense value in practical work. And lastly, the use of alcohol for aiding decolorisation in Ziehl-Neelsen's method of staining is not referred to, a defect which is of course sufficiently obvious.

Bacteriological Diagnosis. By W. D'Este Emery, M.D., B.Sc. Lond. Crown 8vo, pp. 215, with two plates. London: H. K. Lewis. 1902. Price 5s. 6d.

This small volume is one of Lewis' Practical Hand-book Series. The title of the book might almost be Clinical Pathology, for though it is mainly devoted to bacteriological diagnosis, instructions are included for the clinical examination of the blood, and various methods for the examination of morbid products and tissues are also described. The book is essentially practical in its nature and largely consists of a compilation of the more simple pathological methods used in the diagnosis of disease. The author has had considerable practical experience in teaching the subject in the post-graduate class of clinical pathology in the University of Birmingham, and many useful practical hints are included in the instructions, which are, as a rule. clearly expressed. Questions of theory are, for the most part, wisely avoided, for such statements as that "tubercle bacilli contain a considerable amount of fat, and this prevents them from staining readily with ordinary stains," are at least open to question. For the bacteriological examination of the blood, a syringe which can be readily sterilised will probably be found more convenient to use than the apparatus described under that heading. There are two coloured illustrations of some of the more common pathogenic bacteria; some of these are hardly successful. The book is specially intended for general practitioners who may wish to undertake the microscopical investigation of their own cases. It is simpler and more attractive than most books containing this kind of information, and should it encourage such work among practitioners generally, it will do much good. The only objection to the book is that it makes the subject appear just a little more simple than it really is. It forms a useful practical introduction to the subject, but as the author states, it should only be used in connection with larger books of reference.

Second Progress Report of the Campaign against Mosquitoes in Sierra Leone. By M. Logan Taylor, M.B., of the Liverpool School of Tropical Medicine. Pp. 13. London: Longmans, Green & Co. 1902. Price 1s.

In July 1901 the men employed by the Liverpool Malarial Expedition started drainage operations in Freetown, and this pamphlet, which is issued by the Liverpool School of Tropical Medicine, gives a short account of its present sanitary condition. The experiment of handing over the sanitation of the town to a

native municipality has apparently not been a success. The native is perfectly willing to have his town kept clean by the Liverpool Malarial Expedition or anyone else, but will not do it himself. The Government is now draining the streets properly, but the general condition of the town is still very bad. It would be interesting to know what effect the year's work has had on the sickness and death rate.

Report on the Sanitary Conditions of Cape Coast Town with Suggestions as to Improvement of same. By Dr M. LOGAN TAYLOR, M.B., Ch.B. Pp. 19. London: Longmans, Green & Co. 1902. Price 1s.

THIS is a scheme for the better sanitation of Cape Coast Town, drawn up by Dr Logan Taylor of the Liverpool School of Tropical Medicine. It deals with the general sanitary condition of the town and makes certain recommendations which, if carried out, should greatly improve the health of one of the worst spots on the West African Coast. The supply of latrines, dustbins, etc., seems to be totally inadequate, and this with the want of white supervision over the scavengers would appear to be principally responsible for the present condition of the place. The Public Works Department, acting on the advice of the local sanitary authorities, should have been able to remedy this state of affairs without an unofficial enquiry, which this amounts to.

Inoculation against Malaria. By Dr PHILALETHES KUHN, Staff Surgeon to the Imperial Troops of the South-West Africa Protectorate. Translated by H. A. Nesbitt, M.A. Pp. 32, roy. 8vo. London: H. K. Lewis. 1902. Price 2s. net.

THIS is a translation from the German of a pamphlet in which Dr Kuhn advances his view that the horse-sickness of S.W. Africa is a form of malaria, and that malaria in the human subject is capable of treatment by means of a serum obtained from the horse. The translation is carefully literal, though here and there it betrays the want of medical knowledge on the part of the translator. Dr Kuhn would have been well advised if he had grounded his views on a more ample experience before publication even in this short form. No information is given as to the mode of preparation of this curative serum nor as to any attempts at standardisation. Among the white population the serum has been injected in some 20 cases of malaria with, as Dr Kuhn relates, no serious ill effects and some apparent good. The results expected from inoculation are stated to be: (1) relief of existing paroxysm; (2) avoidance of relapses; (3) protection

against fresh infection. Temperature charts are inserted showing the effects in horse and man of the inoculation of the serum. But the evidence given is wholly insufficient to enable one to judge of the value of the treatment.

A System of Physiologic Therapeutics. Vol. vi. Dieto-Therapy and Food in Health. By NATHAN S. DAVIS, Jr., M.D. London: Rebman Ltd. 1901.

VOLUME VI. of the System is divided into two parts—the first, the general principles of diet, and diet in health, while the second consists of diet in disease. There does not seem to be much that is original or striking in the book. It is a plain account of current views. At parts it seems deficient; for example, in the section on Rectal Alimentation. The old distinction between red and white meats is retained and dwelt upon in the treatment of chronic nephritis—a distinction, the value of which Von Norden's work disproved some years ago. Taken as a whole, the book is a fair account of dieto-therapy, but by no means exhaustive.

Counties of Stirling and Dumbarton. Annual Reports for the Year 1902. By JOHN C. M'VAIL, M.D., D.P.H. (Camb.), F.R.S.E., Medical Officer of Health.

BY comparison with the records of recent years it is evident that 1902 was an exceptionally healthy year, and in consequence the medical officer of health has the gratification of recording a low death-rate from all causes, a low attack-rate from notifiable diseases, and a low zymotic death-rate. Of the infectious diseases diphtheria alone showed an attack-rate above the mean, and yet its death-rate was not proportionately high. Dr M'Vail has in these reports included a summary of the rates experienced in the decade 1893-1902, and has illustrated the record by excellent charts showing the annual excess or deficiency above or below the mean rate for the whole decade. These charts render his reports for 1902 specially valuable and bring out very clearly the healthy character of the final year of the decade. The chief matter of regret in the statistics of the year is the low birth-rate. It is to be hoped this rate may show an early increase as a result of the probable rise in the marriage-rate on the conclusion of the war. On the recommendation of the Local Government Board plague has been permanently added to the list of notifiable diseases.

The reports include details, as enjoined by the Factory and

Workshops Act 1901, with regard to the sanitation of workshops, especially as to cubic space, ventilation, and sanitary conveniences. The M.O.H. this year also directs attention to river pollution in the County of Stirling, especially that of the Carron, by paper-works and by the sewage and refuse of the Burgh of Denny; and that of the Avon by paper-works, coal dross washings, and sewage from various districts. The new water supply for East Stirlingshire when introduced will render it possible to improve the drainage of many of these areas.

Dr M'Vail's reports are always interesting and instructive and these for 1902 are no exception, notwithstanding the comparative absence of epidemics during the year.

List of Books Received

From Longmans, Green & Co.

A Manual of Surgical Treatment. By W. W. Cheyne and F. F. Burghard. Section ii., Part vi. Price 21s.

Elementary Bacteriology. By M. L. Dhinjra. Price 3s.

From Rebman, Ltd.

A Manual of Plague. By W. E. Jennings. Introduction by Surg.-Gen. G. Bainbridge. Price 8s.

A Text-Book of Pharmacology and Therapeutics, or the Action of Drugs in Health and Disease. By A. R. Cushney. 3rd Edition. Price 17s. 6d.

Cellular Toxins, or the Chemical Factors in the Causation of Disease. By V. C. Vaughan and F. G. Novy. 4th Edition. Price 14s.

Medical Microscopy. By T. E. Oertel. Price 9s.

A System of Physiologic Therapeutics. Vol. x. Pneumotherapy, including Aërotherapy, and Inhalation Methods and Therapy. By P. L. Tissier. Price 12s. 6d.

High Frequency Currents in the Treatment of some Diseases. By C. Williams. Price 10s. 6d.

Pregnancy, Labour and Child-bed with Ovarian Tumour. By R. G. M'Kerron. Price 7s. 6d.

Some Practical Points in the Diagnosis and Treatment of Gonorrhœa in the Male. By H. Oppenheimer. Price 1s. 6d.

Surgical Diseases of the Abdomen. By R. Douglas. Price 30s.

From H. K. Lewis.

Practical Pharmacy and Prescribing for Students of Medicine. By J. Calvert. 2nd Edition. Price 4s. 6d.

A Manual of Ophthalmic Practice. By C. Higgins. 2nd Edition. Revised and Edited by A. W. Ormond. Price 7s. 6d.

From Asselin et Honzeau.

Les Déséquilibrés du Système Nerveux. By A. Raffray.

From W. B. Saunders & Co.

Nothnagel's Encyclopædia of Practical Medicine—Diseases of the Stomach. By F. Reigel. Edited by C. J. Stockton. Price 21s.

Nothnagel's Encyclopædia of Practical Medicine—Diseases of the Liver, Pancreas and Supra-renal Capsules. By L. Oser, E. Neusser, H. Quincke, and G. Hoppe-Seyler. Edited by R. H. Fitz and T. A. Packard. Price 21s.

A Text-Book of Legal Medicine and Toxicology. Edited by F. Peterson and W. S. Haines. In 2 Vols. Vol. i. Price 21s.

Tuberculosis. By N. Bridge. Price 6s.

Modern Materia Medica and Therapeutics. By A. A. Stevens. 3rd Edition.

The Practical Application of the Röntgen Rays in Therapeutics and Diagnosis. By W. A. Pusey and E. W. Caldwell.

From D. Appleton & Co.

Diseases of the Heart and Arterial System. By R. H. Babcock. Price 25s.

From Baillière, Tindall & Cox.

Manual of Medicine. By T. K. Monro. Price 15s.

From J. & A. Churchill.

An English Handbook to the Paris Medical School. By A. A. Warden. Price 2s.

Uric Acid as a Factor in the Causation of Disease. By A. Haig. Price 15s.

An Enquiry into the Etiology and Pathology of Beri-Beri (Studies from the Institution for Medical Research, Federated Malay States). By H. Wright. Vol. ii. No. 1. Price 3s.

Modern Bullet Wounds and Modern Treatment. Part of the Alexander Essay for 1903. By Major F. Smith. Price 3s.

The Natural and Artificial Methods of Feeding Infants and Young Children. By E. Cautley. 2nd Edition. Price 7s. 6d.

Serum Therapy, Bacterial Therapeutics and Vaccines. By R. T. Hewlett. Price 5s.

Lessons in Disinfection and Sterilisation. By F. W. Andrewes. Price 3s.

From Wright & Co.

Eye Symptoms as Aids in Diagnosis. By E. Magennis. Price 2s.

Buxton, Its Waters, Baths, and Accessory Methods of Treatment. By W. Armstrong and J. E. Harburn. Price 1s. cloth, 6d. paper.

Lectures on Massage and Electricity in the Treatment of Disease. By T. S. Dowse. 4th Edition. Price 7s. 6d.

A Pharmacopœia for Diseases of the Skin. By J. Startin. 5th Edition. Price 2s. 6d.

From Cassell & Co.

Tumours, Innocent and Malignant. By J. Bland Sutton. 3rd Edition. Price 21s.

From C. Naud.

La Nature Syphilitique et la Curabilité du Tabes, et de la Paralysie Générale. By L. E. Leredde. Price 3 frs. 50.

From the Scientific Press.

The Medical Attendance of Londoners. By Sir Henry Burdett. Price 1s.

Sight and Hearing in Childhood. By R. B. Carter and A. H. Cheatle. Price 2s.

From H. J. Glaisher.

Polyphase Currents in Electrotherapy. By G. Herschell. Price 2s. 6d.

Manual of Intragastric Technique. By G. Herschell. Price 7s. 6d.

Twelfth Annual Report, 1902 (*County Council of Stirling*). By J. C. McVail.

Twelfth Annual Report, 1902 (*County Council of Dumbarton*). By J. C. McVail.

Transactions of the College of Physicians of Philadelphia. Vol. xxiv. 3rd Series.

90th Annual Report of the Royal Edinburgh Asylum for the Insane for the year 1902.

Reports of the Royal Asylum of Montrose for 1903.

Statistical Tables of the Patients under Treatment in the Wards of St Bartholomew's Hospital during 1902. By H. M. Fletcher, J. H. Drysdale, and R. C. Bailey.

Annual Report of the Medical Officer of Health of the City of Edinburgh for the year 1902.

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THE SCOTTISH
MEDICAL AND SURGICAL
JOURNAL

LABOUR IN TRANSVERSE POSITIONS OF THE HEAD: ITS MECHANISM AND TREATMENT

By ROBERT JARDINE, M.D., F.R.S.E.,
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WITH a normal pelvis the head usually enters the brim with its long diameter more or less in one of the oblique diameters of the pelvis. Occasionally a small head will be found to enter in the transverse, but transverse positions of the head are, as a rule, found only in flat pelves. In a typical flat pelvis the transverse diameter is elongated, while the conjugate is shortened, so the long diameter of the head naturally comes to lie in the transverse, the only way in which it can enter the brim.

In a flat pelvis the head lies transversely, with the sagittal suture across the pelvis, behind the centre, near the promontory, or in front of the centre near the symphysis pubis. In the former it is known as an anterior parietal, and in the latter a posterior parietal, presentation. The anterior parietal presentation is much the commoner of the two, and this is fortunate, as it is the more favourable. In both cases the anterior and posterior fontanelles lie easily within reach, the anterior one being as low or even lower than the posterior. A certain amount of extension has occurred, and if this were to continue, a brow or face presentation would result.

The mechanism of labour differs considerably from that of an ordinary vertex presentation. The head lies with its bi-parietal diameter in the conjugate. The bi-parietal is the longest transverse diameter of the head, and it is obvious that if this position be maintained the head will have to pass the

brim with its longest transverse diameter in the shortest diameter of the pelvis. To overcome this difficulty the bi-temporal diameter, which is at least ½ inch shorter, is substituted for the bi-parietal, by the head slipping towards its occipital end. When the uterine contractions begin to force the head into the brim, the wedge shape of the head causes this movement in the direction of the wider end of the wedge, and in this way a shorter diameter, the bi-temporal, is substituted for a longer one, the bi-parietal. The head passes the brim with the bi-temporal diameter in the conjugate, and in many cases a spoon-shaped depression will be noticed at the back part of the temple, where the promontory has pressed. As the head begins to descend in the anterior parietal presentation, the sagittal suture will be noticed to travel towards the promontory, until the anterior parietal bone is well down into the cavity of the pelvis. In some cases the ear may be felt just behind the symphysis pubis. The head then becomes pivoted, as it were, on the symphysis and the posterior parietal is driven round the promontory, the sagittal suture now coming forwards towards the centre of the pelvis. The posterior side of the head will be more or less indented by the promontory. When the head has once passed the brim the remainder of the mechanism will be the same as in a normal case, viz., flexion, internal rotation and extension. As the outlet is enlarged expulsion will be easy.

When the posterior parietal bone presents, the only difference is that as the head is driven into the brim the sagittal suture travels towards the symphysis, and when the posterior parietal is well down, the head pivots on the promontory, and the anterior side of the head is driven down round the symphysis, the sagittal suture now travelling back towards the centre of the pelvis. The posterior side of the head will probably be indented by the promontory. The remainder of the mechanism will be as in a normal pelvis.

The rounding of the symphysis is much more difficult than that of the promontory, because the zone of resistance is much greater, nearly the whole of the anterior side of the head being in contact with the anterior wall of the pelvis, while in the other case the only part of the head which is resisted is that which is in contact with the promontory.

Treatment.—The first important point to decide is whether or not the head will pass through the pelvis either by natural efforts or with assistance, so as to give a live child. No definite rules can be laid down on the basis of the length of the conjugate. For instance, given a true conjugate of 2¾ inches, we would not be justified in stating that the only possible way of delivering a live child would be by either Cæsarean section or symphysiotomy. In many cases Cæsarean section would be the proper operation, but in some, delivery through the natural passages would be quite easy by forceps or version, or even by natural efforts. The length of the conjugate is fixed, but it must never be forgotten that the size of the child's head is a very variable quantity, and besides the size of the head its compressibility must also be taken into account. A soft head will mould and pass where a hard one of the same size will not enter the brim. Each case must then be judged on its own merits. It is impossible to measure the exact size of the head, but the amount of overlapping of the symphysis will enable one to form a very good estimate as to whether or not the head will pass. With the patient in the lithotomy position, introduce the fore and middle fingers of one hand into the vagina, and bring the thumb of the same hand up over the symphysis, and then push the head firmly into the brim with the other hand over the lower part of the abdomen, and you will easily be able to estimate the amount of overlapping and also the compressibility of the head. If the symphysis is much overlapped and the head hard, the chances of getting a live child through without increasing the size of the conjugate are extremely small. Experience alone will teach one as to the possibility of getting a head through, and unfortunately one cannot impart his experience to others. The following case will illustrate the importance of taking the size of the head into consideration :—

Last year a primipara was placed under my care when she was about six months pregnant. I found she had a flat pelvis with a true conjugate of 2¾ inches. I came to no decision as to what I would ultimately do, but determined to watch the case closely. She came for examination from time to time, and I found that the head would enter the brim until she was well on to full time, so I waited. The labour ended

naturally, the head passing the brim with an anterior parietal presentation. The head was very narrow, with a bi-temporal diameter of barely 2½ inches, so it passed through the 2¾ inches conjugate without difficulty. Nature seemed to have developed the head in the best possible shape to overcome the difficulty of delivery.

If I had not carefully estimated the size of the head in this case I might easily have been led into the mistake of doing a Cæsarean section at the commencement of labour, which would have been quite unjustifiable.

As early in labour as possible one should determine what interference, if any, will be necessary. If it is to be a Cæsarean section the sooner it is done the better, as there is no necessity of allowing labour to exhaust the woman before the operation is performed. If a symphysiotomy is to be done you must wait until the first stage is completed, and you may wait until the head has had some time to mould. Symphysiotomy may be done after failing with forceps, but in the interest of both mother and child it is preferable to do the symphysiotomy first hand and not after trying forceps. The methods of delivery I wish more particularly to speak about are by axis-traction forceps or version. At one time version was almost universally used, but since the introduction of axis-traction forceps version has been largely given up. After an extensive use of forceps, in such cases experience has taught me that they are preferable in anterior parietal presentations, and version in posterior parietal cases. I was led to this conclusion from noticing that in most of my cases of failure with forceps the presentation was a posterior parietal one. In the following case I was able to test both methods of delivery, and get a live child through by version in a posterior parietal presentation after the forceps had failed to move the head :—

Mrs B., ii-para, æt. 29. This patient's first pregnancy was a somewhat interesting one. I first saw her in 1900 at the seventh month and could not detect any signs of fœtal life. After examining her several times I concluded the fœtus was dead. The patient was anæmic, but beyond that her health was good. She was very anxious to have the uterus emptied, but I strongly advised her to wait. She went to full time, and a

seventh month, somewhat macerated fœtus was born quite easily. She made a good recovery.

The present labour was at full time. When I was called the membranes had ruptured. The os was about half dilated. The head, which was large, lay above the brim transversely, the occiput towards the left, and with the sagittal suture in front of the centre of the pelvis, near the symphysis. The two fontanelles lay on about the same level. It was thus a typical posterior parietal presentation. The pelvis was very broad and slightly flattened. The true conjugate was barely 4 inches. An ordinary sized head should have given no difficulty with so large a conjugate, but it was quite evident that the head was above the average size, and after delivery this was seen to be the case. The symphysis was slightly overlapped.

As the uterus was not retracted round the child, and the fœtal heart was quite strong, I determined to wait for some hours to allow of full dilatation of the os and moulding of the head. Seven hours after the rupturing of the membranes the head had not advanced any, although the uterine contractions had been fairly strong. As the contractions were now becoming weaker, I determined to deliver, as it was quite evident this would not occur by natural efforts. Dr Louise M'Ilroy kindly assisted me.

As the uterus was not retracted round the child I determined to try first with forceps, and if I failed, to do version. I am very strongly of opinion that version should not be done after failure with forceps, *i.e.* after a lengthy trial of forceps, but this case did not come under that heading, and I was confident that the patient would not suffer.

I applied a very considerable amount of traction, but, as I expected, did not advance the head in the least. I then removed the instruments and turned without any difficulty. Dr M'Ilroy kept up firm suprapubic pressure, and the arms were easily released. The vagina was so narrow that the perineum was ruptured about half-way back by my hand in releasing the arms. The aftercoming head was delivered by traction and suprapubic pressure. The child was asphyxiated, but began to gasp in a minute or two, and did not require artificial respiration. It was a large healthy male, and weighed 8½ lbs. Its head was considerably above the average size, but

there was no mark of the promontory on it. The perineum was stitched and healed completely. The patient made a good recovery.

One cannot dogmatise on one case, but taken along with the fact that I have frequently failed with forceps in posterior parietal positions, although the disproportion between the heads and pelves was not greater than in many of the successful cases of anterior parietal presentations, I think my conclusion is a sound one. This case occurred after I had formed my conclusion, and the result was certainly in accordance with what I expected. I would, therefore, recommend axis-traction forceps in anterior parietal presentations and version in posterior ones, provided, of course, that the uterus is not firmly retracted round the child. The Walcher position will be found of great assistance in both cases.

If we consider the movement of the head it is easy to see why the forceps are better adapted for delivery in anterior than in posterior parietal cases. The traction naturally tends to swing the head round the symphysis, and thus to follow the natural mechanism of the anterior parietal presentation. To follow the natural mechanism of the posterior presentation one would have to swing the head backwards, which the forceps will not do. With antero-posterior forceps like Cameron's, one can do this, but the risk of damaging the soft parts between the promontory and the head is very great. For that reason I have never used them. This risk is not an imaginary one, as I have seen a case where the promontory perforated the back of the lower uterine segment during delivery with antero-posterior instruments.

To sum up regarding treatment. Be careful to estimate the size of the head relative to the pelvis through which it has to pass, and decide as early in labour as possible what your line of treatment is to be. If the disproportion between the head and the pelvis is great, and the child is alive, Cæsarean section should be done as soon as possible. If a slight increase of the size of the pelvis only is required, symphysiotomy should be selected. If there is a reasonable chance of delivering a live child through the ordinary passages and the presentation is an anterior parietal one, wait a reasonable time to allow the head to mould, and then apply axis-traction forceps. If you fail

with the forceps and the fœtal heart is strong do a symphysiotomy, but if the child is feeble or dead do a craniotomy. In a posterior parietal presentation do version as soon as the os is fully dilated, and if the aftercoming head becomes impacted perforate it.

In all cases when the child is alive one should adopt a method of delivery which will, if possible, save the child, and not increase the risk to the mother. If the child can only be saved at the expense of great risk to the mother, I would not hesitate to sacrifice the child. For that reason I would not do a Cæsarean section after forceps had been used, as the risk to the mother would be too great. Finally, never attempt delivery unless you are prepared to finish the case by a destructive operation or otherwise, in event of failing with forceps or version.

SIX YEARS OF MEDICAL JOURNALISM—A RETROSPECT

By JAMES C. JOHNSTON, A.B., M.D., New York,
Recently Editor of the *Journal of Cutaneous and Genito-Urinary Diseases*

HAPPINESS, they say, is accomplishment. Mine in this connection lies in the fact that I have accomplished my term of service and am free to sit down and write, while they are fresh in my mind, the reflections born of the experiences of those six years. It is not an unusually long period, as these things go, for journalism is, like eczema, a blood disease, and can rarely be cured in a lifetime. I had served an apprenticeship of four years under Dr J. A. Fordyce before Dr Swinburne and I assumed the management, as well as the ownership of the *Journal*, so, perhaps, in view of the dual rôle, if not the experience, I may be excused for the rashness of getting into cold type with reminiscences. Of our troubles as publishers, struggles with printers, photo-engravers, lithographers, paper-makers, post-office authorities, and, especially, with non-paying debtors, of whom we met some two thousand, I shall have nothing to say. The experience is valuable, but only to the individual; what I have to present relates to the editorship and, I have faint hopes, will tend to promote a better under-

standing between authors and readers, on the one hand, and the editorial staff, on the other. If a bias in favour of the latter is discovered, it will be forgiven on the ground that

> "Each in his separate star,
> Must paint the thing as he sees it
> For the God of things as they are."

The god is the public, the only tribunal from which there is no appeal. Its judgments should be moderated on that account alone.

The worst of the many evils with which the medical profession has to contend is one of which all our national experience has taught us the folly, decentralisation. It is evident throughout. Its business is worse handled than any other. Instead of trusts, in which overproduction is restrained, in which wages can be fixed and maintained, and in which the incompetent and superfluous are eliminated, it is every man for himself, and the devil and his colleagues for the hindmost. This is true of its material for investigation, and of the journals it supports, as well as actual practice.

Our exchange list numbers more than one hundred and twenty, the total varying from time to time, owing to untimely deaths and summary removal when a contemporary was caught in too barefaced a theft from the *Journal's* abstracts. Of these, the large majority, seventy-odd, are American. No imagination, however fertile, can conceive a use for so many. That some of them serve no purpose is amply testified by their contents. The whole of one man's time would be necessary to review them in the most superficial manner. We are 125,000, but it would be enough for us if we had only a few weeklies and monthlies, and a periodical devoted to each specialty for the work which is too technical for the general reader. Their capacity would be limited, and it would be possible for them to accept only what is really valuable. The reader would be saved the sifting process he goes through at present, authors would be compelled to be sure that they have something to say, and that it be said in the tersest manner, and the journals themselves would be adequately supported. Such a beautiful Utopia, as late Senator Ingalls said of purity in politics, is an iridescent dream. Being a practical people, we will have none of it, and the gentleman from the backwoods or the metropolis,

with an experience of two cases, will go on piling up statistics of the result of treatment to the end of time. Worst of all, his work goes to leaven the lump, and all the world gains mental indigestion, nothing more. We struggled against the flood of literature for a year, but self-preservation drove us with a consuming regret to file about fifty periodicals in the waste basket, their wrappers still intact. Things are getting to a pretty pass when not every hamlet, but every medical society in that hamlet, is of its dignity and importance impelled to acquire an organ. A crumb of comfort lies in the fact that the American mote has an exact counterpart in the beam in the European eye. Two journals are published regularly in Great Britain which contain only the burning words of their editors. The pertinence of these remarks lies in the explanation they give of the character of much of our literature, as well as of the fact that few men read anything nowadays out of their special lines, and in them the work of those whose names they know.

Original Articles.

Two motives, in the main, lead a man to present his views to the public. They are that he wishes to add a mite to the sum total of knowledge, or that he wishes to gain a reputation, vulgarly speaking, to advertise himself in the only way legitimately open to him. Both are entirely worthy, but both are subject to perversion. In the first case he may not be able to judge of the value of his own work ; he may be so young that enthusiasm betrays him into error (this type of youth has been known to last for fifty years), or his experience may not be sufficient to justify a hearing at all. It does not matter that his work has been supervised by elder men ; it must stand on its own merits. I have known not a few instances in which publication has been preached as the gospel of living by those who should know better. Few workers' activities are perennial like Virchow's, and it is not too much to say that medical men do their best work before fifty. This is the point at which the editor should appear as counsellor and friend, and advise a postponement or a touch here, an amplification, verification or condensation there. His efforts are often taken amiss, and the manuscript is withdrawn by the indignant author for publica-

tion elsewhere. It is the ideal editor I am speaking of, certainly not myself, a person of judicial temperament and something near to omniscience, who has the courage of conviction. The letters the editor gets are pretty scurrilous at times. My experience is that nothing occasions an author more annoyance than the return of his article ; but when the thing is hopeless, it must be done. Let me say that the editor gathers no great pleasure from the proceeding ; in fact, it is the most difficult thing he does. The paper may have been read before the Medical Society and received with the courteous comment that means so little, " this painstaking and erudite contribution to our knowledge." You know the phrase. Just the same, back it goes, and the editor is arraigned for a numskull who can't see beyond his nose.

When the work is good and is accepted, the troubles are by no means at an end. Few of us can write our beautiful mother tongue. In most instances not a particle of attention is given to style, sometimes not even the spelling is correct. The sentences are lame, they convey no meaning, and they are jumbled without an effort at continuity of thought. People have no time to dig for nuggets in this age. Unjustifiable conclusions are drawn from the data presented, and good workers sometimes require twenty years to eliminate the error.

It is curious to see how mistakes of this sort are clung to, as to our dearest hopes. Authors are incorrectly quoted, and references, often not looked up, are given in the same way. Does the man who writes naevus " nevus," like you to tell him that it is Latin, not English, he is using ? His enthusiasm at your kindness is not noticeable to the unaided eye. Lastly, and this is most distressing of all, there is a good fellow, doing his level best, with almost no equipment to keep up with the procession, who reads truly astounding things into banal findings. The " hysterical pseudo-scientist " is a creature whose opportunities should enable him to know better, and who may be, but rarely is, dealt with without compunction.

Verbosity is inexcusable. Commend me to a man who clips his phrases until not a word can be spared without obscuring his meaning. Circumnavigation of the circumnam-

bient is still a favourite pastime of medical authors. There is no necessity for excusing a publication if it contains its own excuse. I have known a thousand words to be too few for apologies. (There is no doubt that twice ten thousand would be too few sometimes.)

There is something to be said on the author's side in this connection. It is not fair to make him conform to a style of spelling with which he is not familiar, and for which, perhaps, he has sovereign contempt. He cannot be expected to remember that sulphur is spelled with an "f" in one journal and thyroid with a central "e" in another, but he may be expected to do his spelling one way. It is not fair to make him say "I think" for "it seems to me," if the latter seems better to him, and he has the perfect right to style himself "the author." His pet phrases should not be cut unless they are ambiguous. By no law, human or divine, is an editor empowered to make hash of the manuscript or bibliography. It should be sent to the author in order that the injected sentences may not stultify him completely. I know half a dozen editors who thrive on the rows they start in this fashion.

A reference may be given in only one way: author's name; journal not abbreviated out of easy recognition; volume *and year*; page. Within these limits, the writer may, and should, be allowed to write his bibliography as he pleases.

There are instances of manuscripts having been held unpublished for two years, good material, too, in order that the editor's school pupils or colleagues may have first place. In the meantime the story becomes stale or has been forestalled. There is no redress, but it is a cruel wrong. On the other side, writers should remember that an editor does the best he can with a limited space, and may be compelled to delay publication for three or four months.

A nice editorial discrimination is required in the case of a man who writes for reputation. If he has something worth hearing, by all means let him have his opportunity, no matter what his reputation for advertising. If he dashes madly into print with the result of a Bottini operation before the knife is cold, or because he has found a few cell inclusions, and thinks

they prove parasitism as the cause of cancer, plead with him as a brother. If he will not listen, pass him on to another editor. His feelings cannot be hurt. His next dash will be wilder, if possible. Killing is altogether too good for the man whose object is to puff a proprietary preparation under the guise of a contribution to science. A meaner man than the one who married on Christmas a girl whose birthday was on the twenty-fifth of December, is he who sends his article to all the journals he knows of at once, and prays for an immediate hearing. Fortunately the game can never be played but once, even when the culprit is a genius, like the one who recently secured admission to twenty journals, with no returns as yet from the mountain counties. It is possible for an editor to joke about these things when his race is run, not before.

Perhaps the worst of the lot is the thief (no need to mince matters), who steals another's work, his cases, his methods, even his photographs. The editor knows nothing of the matter until he hears from the victim; of course the harm is done, for the article is printed. He makes what amends he can, knowing himself innocent, but the wrong seems without redress. No one pays any attention to the owner's claims after the fact. They are laid to jealousy and dismissed. Sub-varieties of this genus are those who carefully compound articles from quotations, minus the marks or plus them, as the case may be, and those who polish old jewels of wisdom and offer them as new. These two are not insidious like the first, and may be dealt with gently and firmly.

A word as to titles. Let the author remember the unfortunate whose evil state forces him to make the volume's index and, remembering, not make his title a synopsis of his communication. It is enough to tell a reader whether the subject attracts him. If one or two words will do, so much the better; but it is entirely possible for the caption to be misleading when the error is on the side of brevity.

Book Reviews.

There is one desideratum in a book review, and that is to tell the truth about the book. When it comes to the editor's desk, he does one of two things with it—he reviews it himself,

if he has time, or he sends it to someone he thinks fitted for the task. If he selects the latter course, he does so in fear and trepidation. Time goes on and no review materialises. After a few months the publishers politely request to know if there is any likelihood of a notice ever appearing. After several notes, interviews and telephone conversations, the review is sent. It is evidently written from the preface, is perfunctory, and winds up with: "This work deserves a place in every library." It goes in and the editor hates himself.

Occasionally he gets a surprise, and the reviewer makes his comments in fine style. The author is never pleased, but that is beside the issue. His feelings and his publisher's cannot be considered. Good friends are lost that way, but duty points to the good of the reader. The best reviewer is one who not only knows the subject, but has written on it, if possible, a book. His justice is then tempered with mercy, and he writes with authority as well as infinite sympathy. What he says may go a long way if he signs the review, a good practice in most instances. The average critic thinks his work done when he has picked all the flaws he can find. If there are mistakes, misprints or omissions, by all means let them be pointed out, because these points are helps in preparing a new edition, but it is not possible that any work on medicine is wholly composed of error. Destructive criticism is about the easiest of literary pyrotechnics, and, while it may be a choice spectacle, there is nothing left but acrid smoke. Indiscriminate praise is no better. Any man who reads a review (there are not many) wants to know why the book excites admiration. When the work is a monograph on one topic, a good plan, instead of reviewing it in the ordinary sense, is to give the gist of its contents with a comment or two. One sort of book may be treated with any amount of contumely the critic chooses to heap upon it, the one which presents nothing to think about on a subject already worn threadbare. Patience is short these days.

Correspondence.

There is no cordial liking in newspaper offices for unsigned letters. Anonymity is the coward's cloak. The writer is, in

plain English, afraid to let his identity be known, and for good reasons. His object is almost invariably a personal attack. If the editor knows him and can vouch for him, he may publish the letter in case its object is to right a wrong. Why reputable journals publish, as they have in my knowledge, bitter personal attacks, unsigned, or, indeed, at all, passes my comprehension.

There is a place for correspondence in medical publications, and that is to present minutiæ not worthy of expansion into original communications.

Society Proceedings.

Generally, after the medical stenographer has taken his notes, they are sent to the debaters for correction. This practice affords a double opportunity of correcting the mistakes of both, so that what appears is fortunately, in rare cases only, what has been said. Few physicians have silver tongues; but it would be a pity, indeed, if the experience gained from "the speaker's nine thousand cases of dandruff, in private practice," should be lost to the dear public. It is this pure altruistic motive which leads societies to pay stenographers ten dollars an evening. Symposiums are rehashes; set debates are as futile a pastime as making bouquets of dandelions; and in extemporaneous ones, if you know your man, you can generally predict what he will say, even the stories he will tell. From all this may be gathered that society proceedings, in my opinion, are useless. They are—except to the editor who fills space with them.

The case is proved by the exceptions. The transactions of clinical societies are vastly useful if the cases are presented with proper histories. In this way we may escape the reporter's deductions, in which we have not the remotest interest, and at the same time get the benefit of the case. I am not so familiar with other lines, but there is just one dermatological society in the world which reports its cases properly, and that one is in Paris.

The rest are useless, even to the trained observers who can read between the lines. I have been more abused for the transactions my journal published than for any other feature.

I accepted it in proper spirit, knowing that it was deserved and the pruning knife had been used too little.

Abstracts.

As a race we are said to take our pleasures sadly, everything else in tablet form. The habit, the latter, that is, is growing. Things are pretty nearly at a pass where no one with anything to do has time to read literature in any line but his own, and often not in that. That *rara avis* in metropolitan communities, the general practitioner, is in even worse case. The editor knows what is expected of him, and knows, too, the cost and result. How many appreciate the labour that has gone to make the finished product lying in their desks once a week or a month? No more than count the cost of lighthouse building or powder making. The parallel is not perfect, but the toil is the same. I served my time, five years, in the making of abstracts, and there is nothing, except the index, for which I have greater loathing. Someone must do it. The question is, Who? We must abstract from Russian, Polish and Scandinavian tongues, if we can; must be able to winnow wheat from chaff, make it readable, and compress the work of ten years into not more than five hundred words. It is not too much to say that every abstract, properly done, represents from two to three hours' time. Count up the years contained in the single issue of the *Philadelphia Medical Journal* of December 13. If an article is worthless, it can be dismissed in two lines, but the mind that weighs it should be judicial. "Nothing new" is a sad commentary on an "original" article. My idea is that an abstract should merely indicate the trend of the author's observation, not attempt to give the whole substance, unless it is an epoch-making production. If the reader is really interested, he will study the original for himself; if not, he will get all he will ever remember. Journals are not published to encourage laziness. The chief reason for any notion of the abstract is that, with all the good intention possible, the reviewer often misrepresents the author through misunderstanding or carelessness. The error is copied, carried into books, and embalmed for a generation. This is the reason why many writers of late have taken to making their

own abstracts. The polyglot genius with medical training who can weigh evidence and sum it up does exist. There are several of him in my ken, but, so far as my experience goes, he works when he lists, sometimes for glory, sometimes for the love of it, and sometimes for money or the journals. Whatever the motive, the reader is his debtor, but his word should not be taken as gospel. Quite as useful as the man who pursues original lines of investigation is he who presents an able critical summary of the results of that work. Small thanks he ever gets for it.

The Publisher's Department.

One word and I am done. I am not of those who hold that medical literature is on so high a plane that there must be an absolute divorce between it and the advertising which makes its existence possible. The journals subsidised from one source or another are in a fortunate position, for they are not compelled to carry advertising. The rest are. They could no more live without it than could the lay periodicals; moreover there is no discernible sense in their attempting to do so. Having accepted it, the management may offer a *douceur* to the advertiser, not under any circumstances to publish his matter in the regular reading pages, but to give him space for "write-ups" in a publisher's department, the character of which is plainly indicated. The subscriber may read or not, as he chooses, but the obligation has been discharged. Close supervision is absolutely necessary, for advertisers having the inch make a practice of demanding the ell. If the matter is new, and tests of the preparations well done, so much the better. In case they are not, they must at least be abstracts from recent publications, not mere puffs. This department is a regular feature in many of our best general magazines, and it is merely a matter of business, to be viewed in no other light, but the advertiser should not expect, as he does, to get the notice for nothing. He would not do so if he did not know himself to be dealing with a class notoriously not business men.

I have not touched upon the department of news, for presenting that is a function of the medical newspaper and not of

the special journal. The same I hold to be true of editorial writing. It may not be entirely well to tell professional secrets, but there are many difficulties in the making of a magazine which its subscribers seem not to appreciate. I shall have accomplished my object if there comes that better understanding between them and the gentlemen in editorial chairs of which I have spoken. I am not a reformer. Medicine and its literature are too old to be remodelled now, but the paths of both parties in this case may easily be made much smoother.—*Philadelphia Medical Journal.*

AN UNUSUAL FRACTURE ABOVE THE ANKLE, SIMULATING IN ITS CLINICAL SYMPTOMS A "POTT'S FRACTURE"

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IN no class of injuries do we get such a variety of conditions as in the details of individual fractures, and in no other cases do we follow such a routine method of treatment in the matter of the fixation apparatus employed. This is, to some extent, due to the belief and consequent teaching that certain portions of the bony framework of the body are the seat of definite and distinct fractures, the leading signs of several of which have been minutely described by individual surgeons, and have come to be associated not only with their names, but also with any special splints they may have recommended. It follows from this that we instinctively take as the basis of the management and treatment of all injuries in these particular localities the views enunciated by those surgeons who have written upon them, and we act in the belief that if certain symptoms present themselves, we have to deal with a very well-defined lesion. Especially does this hold good if the monographs on any of these special fractures have become classical, and have acquired such a traditional acceptance that to make any comments even on them would appear almost in the light of a form of heresy. In no regions of the body does this state of matters exist more strongly than in the neighbourhood of

the wrist and ankle, where the fractures known respectively as those of Colles and of Pott reign supreme. It is in connection with the latter that I propose to make a few remarks, taking as my text a case recently under my care. Before, however, doing so, it may be as well to briefly allude to one or two facts about this fracture of the fibula which is known as "Pott's."

The name is due to the fact that one day Mr Percival Pott, a surgeon to St Bartholomew's Hospital, fell while crossing London Bridge and broke his right leg a short distance above the ankle. It is said that he was quickly surrounded by a number of Good Samaritans, all eager to assist him, but having, probably as the result of his hospital and other experience, a not very flattering opinion of the "First Aid" services of the willing, but often injudicious "Man in the Street," it is recorded that he took up at once a strategic position, with his back against the parapet of the bridge, and kept his newly-found friends at bay with his stick until a stretcher and skilled help were brought from the hospital. It was while laid up by this accident that Mr Pott studied the exact nature of the injury that had befallen him, and ever since it has been known by his name.

By the term "Pott's fracture" is meant a fracture of the lower end of the fibula, with a dislocation outwards of the foot, the articular surface of the astragalus being separated from that of the tibia. As Pott says, "there is produced at the same time a perfect fracture and a partial dislocation." The fracture of the fibula takes place from 1½ to 3 inches above the external malleolus, just through the upper part of its triangular subcutaneous surface, and at what is the thinnest and weakest part of the bone. In a large proportion of the cases the strong internal deltoid ligament connecting the tibia with the astragalus and os calcis is torn through, though in some cases before the rupture point is reached it carries away the tip of the internal malleolus to which it is attached, thus separating it from the shaft of the tibia. Such an injury, though termed Pott's fracture, might equally well be called *an incomplete form of outward dislocation of the ankle-joint, with fracture of the fibula*, for, as Fig. 1 shows, "the astragalus is partly displaced from the tibia by a rotation on its own horizontal axis, so that the

outer edge of its superior articular surface is higher than the inner, and rests against the under surface of the tibia." In view of this state of matters it is interesting to note that in

FIG. 1.

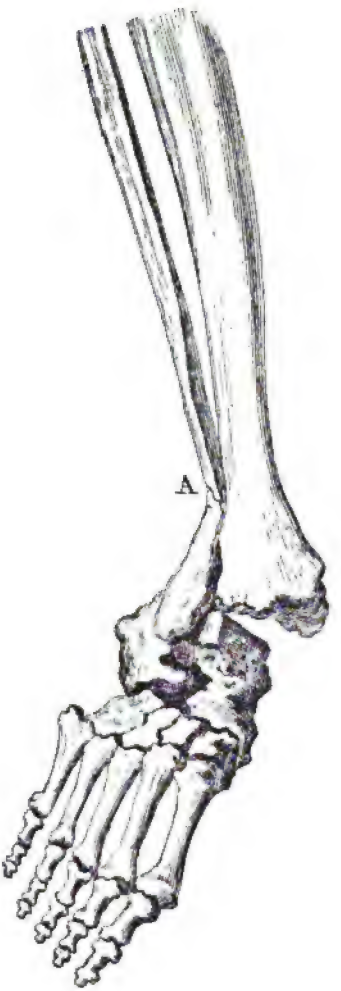

FIG. 2.

French surgical works this injury is called "*dislocation of the foot backwards, with fracture of the fibula.*"

The signs of a "Pott's fracture" are generally quite obvious, for a very marked deformity results. The leading features of it are: (1) eversion of the foot; (2) a prominence

on the inner aspect of the ankle; and (3) projection backwards of the heel. In addition there are other minor points present, viz., a *depression* at the seat of fracture of the fibula, and a *rotation outwards of the foot upon its own axis*, as the result of which there is an eversion of the sole, so that it looks somewhat outwards. In some cases these symptoms are not so pronounced, but they are quite distinct in the majority of cases, and Fig. 2, which is a copy of Pott's original illustration, represents a well-marked instance of the deformity.

The usual cause of "Pott's fracture" is a sudden and severe twist of the foot, generally in the outward direction, though sometimes in the inward. The result of this is that the foot coming down in the former case on its inner border, and in the latter on its outer, the weight of the body is thrown not on the articular surface of the astragalus, but on the fibula, at a short distance above the malleolus, and as the bone at this point is slender and weak, it readily gives way and a fracture takes place. In addition, either simultaneously with the fracture or immediately following it, there occurs that laceration of the deltoid ligament, or separation of the tip of the internal malleolus, which allows of that partial dislocation of the ankle-joint to which reference has been made.

With such a definite causation and with such well-marked symptoms of deformity, there should be no difficulty in diagnosing a "Pott's fracture," provided the symptoms enumerated above mean this injury and nothing else. The possibility, however, of their accompanying another and different osseous lesion is opened up by the following case which was recently under my care.

On the morning of April 8th of this year, J. H., aged 18, "catch-boy" in a shipbuilding yard, was admitted to my ward in the Western Infirmary suffering from an injury to his left ankle caused by falling on to the ground from a height of 10 to 12 feet. The account that he gave of the accident was that while coming through the "closing-plate" at the bow of a steamer he slipped off the plank on to which he stepped and landed on the ground upon his left foot, which then twisted under him. After being examined by a medical man he was sent to hospital in an ambulance van. I saw the patient soon after admission, and considered that the injured ankle showed

FIG. 3.

PLATE V.—TO ILLUSTRATE DR BEATSON'S PAPER.

all the characteristic features of an extreme instance of "Pott's fracture." There was considerable swelling around the ankle from effusion of blood, but there was the great outward displacement of the foot, there was on the inner aspect of the joint the marked prominence with the skin drawn tightly over it, and there was some backward displacement of the heel. Above the external malleolus, too, could be felt the usual sinking in of the leg at the seat of fracture in the fibula. After carefully washing and sterilising the skin at the seat of the injury, and feeling quite satisfied as to its nature, a Dupuytren's splint was applied on the inner aspect of the limb with apparently a satisfactory correction of the deformity. After two or three days, however, I was not satisfied with the position of the foot, which did not seem to me to come into its normal relation with the internal malleolus of the tibia, and I arranged for a skiagram of the injured ankle. This is seen in Fig. 3 (skiagram), and it revealed to me a condition of matters that came as a surprise to me, and at once made it clear that, notwithstanding the orthodox clinical deformity, I was not dealing with a "Pott's fracture" at all, but with a totally different state of matters. Examination of the skiagram showed that the case was one of an oblique fracture of both bones of the leg a short distance above the ankle, and that though there was a prominence on the inner aspect of the ankle, with eversion of the foot and backward projection of the heel, these symptoms were due to conditions different to those in "Pott's fracture." Thus, the *prominence* was not caused by the internal malleolus, but by the lower end of the upper portion of the fractured tibia, while the *eversion of the foot* was not due to any displacement of the articular surface of the astragalus from the tibia, *but to the whole foot being carried outwards along with the lower fragments of the fractured bones.* In the same way, the sinking in of the leg felt above the external malleolus was explained by this same outward displacement of the foot, and not by any falling inward toward the tibia of the inferior fractured end of the fibula.

With the enlightenment brought by the skiagram as to the true state of matters, the question naturally arose as to what line of treatment should be followed in the case. As one looked at the skiagram the first thing that suggested itself was

to resect the lower ends of the upper fragments of the tibia and fibula and wire the parts in position. To carry out such an operation successfully under the conditions existing, and in such close proximity to the ankle-joint, called for absolute certainty of *asepsis*. This I felt I could not guarantee, for though every care had been taken, the pressure of the Dupuytren's splint on the tightly stretched skin had caused some sloughing, and this, in my opinion, was a complete bar to operative measures, for its presence made the occurrence of sepsis a possibility; and were this to happen, a suppurative arthritis of the ankle-joint was bound to follow with, at the best, a stiff joint, whereas without operation the lower fragment of the fracture furnished an uninjured articular surface on the tibia and ensured a movable joint if passive motion was judiciously resorted to. Accordingly, the leg was placed on a posterior splint, with a footpiece at right angles to it, and careful attention given to the dressing of the slough. This latter separated without any further spread of mischief, and the granulating surface shortly afterwards healed. As soon as this took place passive movement at the ankle was commenced, and patient left the hospital in July with the ankle in a very satisfactory state. I saw him a few days ago (September 8th), and he is now able to walk very well, while the movements of flexion and extension at the ankle-joint are excellent. Of course there is still a good deal of deformity, but in this case it does not imply what it does in Pott's fracture, viz., that the articular surface of tbe astragalus is displaced from that of the tibia. It is this state of matters that renders progression difficult and cripples so much those sufferers from Pott's fracture, who recover with extreme degrees of deformity. In my patient's case, notwithstanding the amount of injury above the ankle, the tibia and astragalus are in their proper relation, and the weight of the body is "transmitted through the fibula and the outer portion of the tibia to the astragalus, as should normally be the case, and this allows of fair progression.

As bearing on "Pott's fracture," this case seems to me to have a special interest. I think it very probable that this injury commenced as the majority of cases of Pott's fracture do, viz., by the boy's foot being suddenly and violently brought to the ground on its inner edge instead of on its sole, with the result that the weight of the body was transmitted through the

weak part of the fibula and it fractured. So great, however, was the force acting on the part, that it continued to pass obliquely across the tibia fracturing it, and thus allowed the foot to be carried bodily outwards, along with the lower fragment, instead of rupturing the deltoid ligament and dislocating the astragalus from the tibia. It is interesting to know that an injury of this kind gives rise clinically to the well-marked deformity associated with Pott's fracture and may lead, as in my case, to an error in diagnosis. As I look back, however, on the case, I recognise now, that while there was eversion of the foot, it was not of the kind associated with Pott's fracture, where there is rotation of the foot upon its own axis, with elevation of its outer border and an outward direction of its plantar surface. With the facts before us that this case brings out, it is not unfair to surmise that some of the cases of so-called Pott's fracture that recover with considerable deformity may have osseous lesions similar to those in mine. Blame is often thrown on medical practitioners because " what was only a Pott's fracture " has not recovered with that symmetry and success that some surgical works tell us should always follow that lesion. This case may explain why this is so, and it seems to teach the importance of skiagraphy in fractures near the ankle, for though the majority are in all likelihood of the nature of Pott's, yet a certain number may not be, although having the same clinical symptoms. This being so, the persistence of deformity after recovery in such cases is in no way a reflection on the medical attendant's skill.

THE FREEING OF THE DUODENUM AND GASTRODUODENOSTOMY

By Professor KOCHER, Bern

(Translated by HAROLD J. STILES, from the *Centralblatt für Chirurgie*, 10th January 1903)

IT is now well recognised that the author's (Kocher's) method of resection of the pylorus with gastroduodenostomy provides the most favourable condition for the escape of the contents of the stomach into the intestine. No method of gastro-enterostomy is so certain to prevent the regurgitation of the biliary and pancreatic secretions into the stomach. It is not

to be wondered at, therefore, that other surgeons have attempted to apply the principle in performing a gastro-enterostomy.

According to Villard in 1892 (a few years after the publication of our paper on pylorectomy with subsequent gastro-duodenostomy, which Jaboulay and Villard seemed to have been quite unconscious of even in 1900) Jaboulay originated the idea of performing a gastroduodenal anastomosis for pyloric strictures. He operated on one case unsuccessfully in 1894, using a Murphy's button.

In 1897 Villard again took up the operation in an improved form. In 1900 he published three cases in which he performed what he termed "Subpyloric Gastroduodenostomy," two of which were successful. In a footnote he refers to a further successful case.

He gives full directions for performing the operation, but states that it is "not destined to supplant its predecessors pyloroplasty and gastroenterostomy, but will remain an alternative in the presence of contraindications for the one or the other."

Henle published (*Zentralblatt für Chirurgie*, 1898, Nov. 29), from the clinic of Mikulicz, a successful case of gastro-duodenostomy for stenosis of the pylorus, in which pyloroplasty was impossible, but in which the position of the parts, owing to adhesions, rendered an anastomosis of the upper part of the duodenum to the greater curvature of the stomach quite simple.

Henle comes to the conclusion that the occasions on which the operation can be carried out are not frequent, and that the majority of cases that are not suited for pyloroplasty will not permit of gastroduodenostomy. Henle states that "to be able to lift up the pylorus sufficiently and to alter the horizontal part of the duodenum into a vertical position the duodenum must possess a considerable degree of mobility."

That this is not essential has been proved by Villard's operations. But there exists an inexplicable contradiction between Villard's illustrations and his descriptions. From his illustrations it appears that he does not do a subpyloric anastomosis, but unites the descending part of the duodenum to the stomach. He states that this portion of the duodenum lies deeply and is but little movable, and therefore good assist-

ance is needed, but that when once a suture has been introduced above and below, the parts to be anastomosed can be drawn up into the wound to a sufficient extent. Whoever will try this will find that it is by no means easy. The problem, therefore, is whether or not gastroduodenostomy is destined to take a more important place in the treatment of simple strictures of the pylorus. We shall now endeavour to decide this question.

In intrauterine life the duodenum hangs free in the abdominal cavity (Merkel), and in childhood it still possesses considerable mobility. In later life its right side is directed towards, and becomes adherent to, the posterior abdominal wall, so that its anterior surface only is covered by the parietal peritoneum of the posterior wall of the abdomen. Even in the adult it may readily be demonstrated that the duodenum can be comparatively easily freed again, so that, as in the fœtus, its descending portion and inferior flexure may be rendered movable and brought forwards.

To free the duodenum in this way it is necessary to divide the parietal peritoneum to the right of the descending part of the duodenum. The membrane is divided vertically over the front of the right kidney, a little to the left of the descending limb of the hepatic flexure of the colon. The parietal peritoneum stretches, in this situation, from the front of the right kidney to the colon, forming the upper layer of the transverse mesocolon. If the finger be passed upwards along the second part of the duodenum, in front of the peritoneum covering the kidney, it will enter the foramen of Winslow, above the superior flexure of the duodenum and behind the free border of the gastrohepatic omentum, which contains the portal vein, the hepatic artery, and the bile duct.

We recommend that this delicate layer of parietal peritoneum be divided with the knife two fingers' breadth to the right of, and parallel to, the second part of the duodenum, so that the peritoneum covering the anterior surface of the duodenum may not be injured, as would be the case were the peritoneum simply torn through.

If the divided peritoneum adjacent to the second part of the duodenum be grasped and pulled forward, the fingers can then be introduced behind the duodenum so as to raise it from

the vertebral column, the vena cava, and the aorta. If the peritoneum which descends towards the colon be also divided, the inferior duodenal flexure can also be raised up, not a single vessel of any size being injured. The head of the pancreas is raised up along with the duodenum so that the concave border of the latter, which must not be separated, becomes so movable that it offers no hindrance to the raising up of the duodenum.

By this procedure the muscular coat of the posterior surface of the duodenum is not laid bare, being covered by a layer of connective tissue.

By the above manipulation the second part of the duodenum is rendered so movable that it can easily be brought up to the anterior surface of the pyloric portion of the stomach above the greater curvature.

The extent to which the duodenum can be freed depends on the arrangement of the vessels. The right gastroepiploic artery (the main branch of the gastroduodenal artery) gives off important branches which pass from the left concave border of the duodenum, across its transverse (third) part to the transverse colon. These vessels, which lie behind the upper layer of the gastrocolic ligament, do not interfere to any extent with the raising of the duodenum from the vertebral column. If the colon be thrown upwards, the large right colic artery will be seen crossing in front of the duodenum and then running along its lower margin to reach the ascending colon and the hepatic flexure. While these vessels are not so easily displaced to the left as the branches which go to the colon from the right gastroepiploic vessels, they nevertheless do not prevent the inferior flexure of the duodenum from being sufficiently freed to allow the whole of its descending portion to be raised up from the vertebral column into a convenient position for suturing. The duodenum and stomach, before being opened, must be grasped between the fingers above and below the intended line of suture, so that escape of contents may be prevented.

The part of the duodenum that can be least freed is the superior flexure, because to it is attached the gastrohepatic omentum containing the important vessels already mentioned. This ligament, and its prolongation downwards along the concave border of the duodenum on to the head of the pancreas,

forms an axis round which the descending limb and inferior flexure of the duodenum can be rotated forwards. The lower end of the axis of rotation is determined by the vessels which descend vertically across the terminal portion of the duodenum, and which do not interfere with the raising up of the inferior flexure and the adjacent portion of the third part of the duodenum.

During the whole procedure all that is injured are the peritoneum in front of the kidney and between it and the commencement of the transverse colon, and the loose cellular tissue in front of the vena cava and aorta. It is advisable to preserve the edge of the divided peritoneum adjacent to the duodenum, and to use it as a covering for the posterior wall of the duodenum (now directed to the right). The anterior surface of the duodenum (now directed to the left) which is sutured to the stomach has its peritoneal covering left intact. This is a matter of considerable importance in gastroduodenostomy, because the presence of a peritoneal covering prevents the stitches from cutting through and ensures a secure union of the surfaces. The mobility of the duodenum is of double importance when the movement of the pyloric portion of the stomach is interfered with by the cicatrisation and contraction which is so often present in the conditions for which this operation is performed. It is the extent of adhesion which determines the situation of the opening in the stomach, *i.e.* whether it be made in its anterior wall above the greater curvature, or behind the greater curvature, the gastrocolic ligament being in this case divided. The first method is simpler.

Our experience has shown that in most cases the different methods of gastrojejunostomy give excellent results. Now and then, however, a failure occurs, either from the establishment of a vicious circle, or from the formation of a peptic ulcer. It is not to be wondered at, therefore, that more than one author has come to perform gastroduodenostomy.

By conducting the stomach contents into the intestine at the level of, or above, the opening of the bile and pancreatic ducts, we do away with the danger of the accumulation of the biliary and pancreatic secretions in the intestine and of their regurgitation into the stomach. Nor can a peptic ulcer occur, because the neutralisation of the stomach contents and the

cessation of the peptonising process occur normally as soon as ever the stomach contents enter the duodenum.

Professor Taval informs us that in 1902 he performed gastroduodenostomy with a very good result in a man who, in spite of careful feeding, had become very anæmic from bleeding from a gastric ulcer. Taval found that an incision through the front of the pylorus, allowing two fingers of the left hand to be introduced into the stomach and duodenum, greatly facilitates the introduction of the sutures, as the parts can then be drawn forward and kept in good apposition.

In the Transactions of the German Society of Surgeons for 1899 there appears an incomplete notice of a case operated on in a similar manner by Krönlein.

Professor Graser communicated, at Karlsbad, in 1902, the report of a case of gastroduodenostomy operated on by de Quervain.

Koslowsky (*Russisch. med. Rundschaw*, Nov. 1, 1902, Berlin: Hirschwald), who has twice performed subpyloric gastroduodenostomy, regards the operation as an ideal one, and predicts for it a wide application.

After what has been said above regarding the freeing of the duodenum, the following will suffice to describe our method of performing gastroduodenostomy. The most suitable incision is one similar to that which we recommend for exposing the gall-bladder, viz., an oblique incision two fingers' breadth below and parallel to the right costal margin, beginning at the middle line. After dividing the skin and fascia the rectus muscle is cut through as far as the broad abdominal muscles. The posterior layer of the rectal sheath, the fascia transversalis, and the peritoneum are divided. In muscular subjects the transversalis muscle is split parallel to its fibres, which are then firmly drawn apart. Should any adhesions exist between the gall-bladder and the colon they must be divided. The liver is drawn upwards, the stomach to the left, and the transverse colon and the descending limb of the hepatic flexure downwards. The duodenum is then brought into view and its outer border is clearly defined. A pad of gauze is placed against the under surface of the liver, and the latter is then drawn well upwards with a suitable retractor. Gauze compresses are also employed to push aside the stomach and colon.

The delicate layer of parietal peritoneum covering the kidney is divided vertically 1½ inches external to the second part of the duodenum, and the incision is then continued vertically downwards through the upper layer of the transverse mesocolon (which is held on the stretch) as far as the larger branches of the vessels. The fingers are then introduced behind the left edge of the incision through the peritoneum, and the duodenum is separated from the vertical column, the vena cava, and the aorta, until it can be brought forward and pressed against the pyloric portion of the stomach, which, in its turn, is compressed against the left edge of the wound in the abdominal wall so as to shut off the general cavity of the stomach and prevent escape of its contents. Both stomach and duodenum are now compressed above and below between the fingers of an assistant, and the lateral anastomosis is effected in the usual manner by two rows of sutures.

To one who has once convinced himself how easily and securely this lateral gastroduodenostomy can be performed—provided the duodenum can be rendered sufficiently movable—it will be evident how admirably the operation fulfils the indications for treatment in stenosis of the pylorus. Unlike the other surgeons who have performed gastroduodenostomy, we do not limit the operation to special cases; on the contrary, we regard it as the normal procedure, and we are of the opinion that it will take precedence over all the previous methods of gastroenterostomy and pyloroplasty.

The method is subject to only one contraindication, viz., the presence of such extensive adhesions to the under surface of the liver that the duodenum cannot be sufficiently freed. This difficulty of adhesions can, however, often be overcome, as we have proved in three of our cases; but the fact of having to perform the suturing inside the abdomen is apt to interfere with the security of the stitching, especially in difficult cases. It is on this account that subpyloric gastroduodenostomy did not meet with universal acceptance. The subpyloric portion of the duodenum cannot be drawn out of the wound on account of its connection with the gastrohepatic omentum and the important structures contained within it. This fixation to the under surface of the liver may be so firm that only the lower two-thirds, or only the lower part, of the vertical portion of the

duodenum, together with the inferior flexure, can be brought in contact with the stomach.

We therefore propose that, instead of Villard's subpyloric gastroduodenostomy, the name *lateral gastroduodenostomy* be given to this operation, to distinguish it from our method of inserting the divided duodenum into the posterior wall of the stomach after resection of the pylorus. The great difference between Villard's subpyloric gastroduodenostomy and our procedure is, that we render the descending portion of the duodenum, the inferior flexure, and a considerable portion of the third (transverse) part so movable that the parts to be sutured can readily be raised up and surrounded with gauze so that the sutures can be introduced extraperitoneally with comfort and security.

We intend in future to perform lateral gastroduodenostomy in all cases of stricture of the pylorus, and only to have recourse to gastrojejunostomy in cases rendered unusually difficult by firm adhesions. We have performed the operation on five occasions, four times for cicatrical stenosis and once for malignant stricture. The results have been convincing. Regurgitation of bile either does not occur at all, or only at first, when a large gaping opening has been made. It is advisable to make the anastomotic opening as high as possible, and not too large. The patient with carcinoma was at once relieved of all her discomfort. Only one patient complained subsequently of very severe pain, and he had a simultaneous cholecystotomy performed for gall-stones. That a dilated and sacculated stomach is not so well emptied as by our inferior gastrojejunostomy is obvious. If gastroduodenostomy be performed in such a case it is advisable to occasionally wash out the stomach.

MEDICAL EDUCATION, EXAMINATION, ETC., IN THE EARLY FIFTIES—A RETROSPECT

By JAMES WELSH, M.D., F.R.C.S.Ed.

NOWADAYS one hears so much about the vast strides made in medical education during recent years that it may not be unprofitable to take a glance back some forty-five years, and note the various changes that have come about. In Edinburgh,

at the time mentioned, the students were not nearly so numerous as now, although nearly all parts of the civilised world sent their quota. Then, as now, we had the University and the extra-academical school, but on a smaller scale. There was no preliminary prior to the commencement of medical study. Although it was recommended to be taken early, a student had to pass once only before he was admitted to the professional examinations. Badly educated youths thereby suffered, as I knew several who had completed a medical course, and who, failing in the preliminary, got no further, and had to take to another line of life.

It is a distinct step in advance to exact this before commencing the regular medical curriculum.

The classes were not so numerous as at the present time, and there was nothing like the subdivision and specialisation.

A youth went up his first year and took Anatomy and Practical Anatomy the first winter, and with these Pharmacy and Chemistry.

Physics as a class subject were optional, and were included in the preliminary, the course being taken anywhere the student cared.

The first summer was spent at Botany and Natural History, with Practical Chemistry. The second winter Anatomy and Practical Anatomy, with Surgery and Physiology, were the subjects taken, and in many instances Materia Medica.

At this stage the student presented himself for his *First*, these subjects forming its scope. During the third winter the hospital was taken out and the rounds of the ordinary physicians attended, and the classes were Practice of Medicine, Surgery and Clinical Surgery. Third summer — Clinical Medicine and Hospital. Fourth winter—Midwifery, Pathology and Clinical Medicine, with Medical Jurisprudence. The hospital generally, with visits to the eye wards, which were the only special wards that I can remember.

About this time the tutorial system began to be added as an aid, Anatomy being the first to lead the way, then Surgery, and, later on, Medicine.

The course was completed in the four years, at the termination of which the student presented himself for his *Second*, which was the final. The examination was both written and

oral. Shortly before the period I am dealing with the oral took place in the houses of the professors during the evening, when they were disengaged.

In these days most men who took the University degree (M.D.)—there being no other then—also took the licence of the Royal College of Surgeons, so as to have a double qualification to answer the requirements of the various public services.

At the college there was only *one* examination ; but instead of having a lot of men up for various parts, two only were examined at each sitting of the examining Board. This consisted of four examiners and four assessors, and was continuous until its close. It might last two hours only, or might be extended to four or six, according to the appearance made by the examinees.

Those under examination were placed at opposite ends of the large hall and written papers handed to them. As one was completed it was taken to the examiners in the next room and another given. Then followed the oral, after which the examiners considered their decision, and the examinee was brought in and told the result.

All kinds of dissections and preparations were used in the course of the examination. An old member of the profession when I was up met me the day after, and I have ever remembered what he said : " Our object in examining is to ascertain whether the candidate is capable of practising his profession with comfort to himself, with credit to us, and with safety to the public." That is the object of all examinations in a nutshell. With reference to the matter of examinations, I once heard the great Syme remark that, after all, he thought it might be as well to train and educate students, and then license them, leaving the public to select those who had commended themselves by their successful practice.

An old relative of mine who took the licence of the Royal College in 1807, and who thereafter entered the Royal Navy, told me that in his time the examination was a public one, the general public being admitted, and the candidates being examined before them.

The real examination, I would fancy, took place prior to that ; but when we recollect that then chemistry was in its infancy, and that there was no regular course of systematic

surgery, except a few lectures at the end of the anatomy course, no pathology or medical jurisprudence, or even physiology, and what there was, entirely oral, then it may have been sufficient. At the beginning of the nineteenth century youths were admitted for the licence at eighteen years of age, and the gentleman I refer to was the full surgeon of a frigate before he was twenty-one years of age. These were the days of apprenticeship, and a youth on leaving school at fourteen was apprenticed to a surgeon, attending the classes at the same time.

The first thoroughly complete examination that I experienced was that for the Indian Army, which lasted ten days, and included all the subjects of the medical curriculum, with examination of patients both surgical and medical; the setting of fractures, and operations, major and minor, on the cadaver.

When we reflect on the great additions to medical knowledge during the last four decades there is no wonder at the great addition made to the number of courses and the multiplication of examinations. In the early fifties we thought we had advanced to such an extent that there could not be much more to accomplish. Those now leaving the school are apt to consider their predecessors as antiquated, just as forty-five years ago the old practitioners were considered fossils by the rising generation. They knew nothing of the stethoscope or clinical thermometer, but it was evident that experience had stood them in good stead, as they diagnosed a pneumonia just as promptly as their juniors.

We were great believers in these days in the efficacy of lectures, and after all without them a proper education could scarcely be obtained. It is all very well emphasising practical work, which is of course essential, but without explanations by the living voice slow progress would be made. I well remember the stirring eloquence of one professor who placed on the table before him an old envelope with a few notes on it, stuck his hands in his waistcoat pockets, looked his class in the face, and poured out his subject in a manner that went home. Although the views of the professor have largely changed on the subject he taught, I still remember long screeds of his lectures.

THE EDINBURGH MEDICAL SCHOOL THIRTY ODD YEARS AGO

By C. E. UNDERHILL, M.B. F.R.C.P., &c.

IN the late sixties (1867-70), medical education in Edinburgh differed considerably from its present position. It was, I believe, at that time distinctly ahead of any other medical school in Great Britain, both in the extent and the excellence of its teaching. Syme, Simpson, Bennett, Christison, Spence, and Turner (who had just been appointed to the chair of anatomy), any one of whom would have shed lustre on any school, made a combination which no other could touch, while on the extra-mural side, Haldane in medicine, Matthews Duncan in midwifery, Saunders in physiology, and Watson in surgery, were in vigour and ability not far behind the holders of the chairs. The numbers attending the school were not very large, about 700 medical students all told[1]; and this had the great advantage, from a practical point of view, of enabling each student, when dresser or clerk, to have charge of several beds, five or six at least, in most of the wards. Thus every man got a share of individual teaching and attention far greater than is possible in the more crowded wards of to-day. The teaching was more practical and less scientific than that of the present day. Even in chemistry the teaching took a practical turn, and in the hands of Lyon Playfair it became a positively fascinating subject, from his wide knowledge of, and constant reference to, its application to the arts and industries of the day. Anatomy was looked upon as the backbone of the whole course. It was customary for the student to attend the lectures and to begin dissection in his first term, as soon as ever he had acquired a distant acquaintance with the bones. Botany and natural history were taught in the first summer term, but the examination was not taken until the end of the second year. Physiology was taken in the second winter session, and one course was amply sufficient. Of so-called practical classes there were few, and these were optional. One in physiology had been begun by Argyll

[1] In the University there were 443 students of medicine in the winter session 1868-9.

Robertson, when assistant to Bennett, a few years before, and it was conducted in 1867 by Rutherford; and I believe there was one in botany. We were taught to look at microscopical sections, but not how to prepare, cut, or mount them. The weak point in the teaching was pathology, then in the hands of Henderson, an avowed homœopath, who retained the chair, but was not permitted to hold wards in the Royal Infirmary. In the extra-mural school, Grainger Stewart had just begun to lecture on this subject. Most of our pathology, however, was of the naked eye type, and was acquired in the post-mortem theatre.

The Chair of Medicine was occupied by Laycock, an able and original thinker, in some respects in advance of his time. But his lectures were not appreciated by the general body of students, and were indeed too theoretical for the average beginner in medicine.

There were no classes in diseases of the eye and ear, no systematic teaching of the diseases of children, fevers or mental disease. Skin diseases were taught in the wards by the various physicians.

The clinical teaching was really excellent. Syme on the one side of the Infirmary and Bennett on the other were universally recognised as reaching the highest eminence in bedside teaching; and there were others in the school not far behind them—while those whose interest took them to the wards of Sir James Simpson and Matthews Duncan saw the practice of the gynæcology of the day in its highest form. Surgical gynæcology was then in its infancy. Keith's first ovariotomy was done in 1862, and he was appointed special surgeon to the Infirmary, without wards, in 1870; and the only systematic teaching of this subject was an addendum to the course on midwifery, and was confined to a very few lectures. The systematic lectures on midwifery were of course very good, as the names of the great teachers above mentioned would ensure; but there were no regular cliniques given at the Maternity, nor were students encouraged to go there. The Maternity itself had no settled home and was moved about from one miserable and unsuitable dwelling-place to another, until, long after the death of Sir James Simpson, the present building was erected in his memory.

It may be noted as a curious fact that so late as 1870, and indeed later, there was no examination in midwifery for the M.B. degree at Oxford or Cambridge, or for the diploma of the Royal College of Surgeons of England.

In the professional laboratories not much original work was done, but fully as much as at any period since.

Taking it all in all, the education given was a good and sound one, and well fitted to turn out practitioners fully qualified to enter upon the business of their lives, but perhaps not to educate men of the highest powers to become pioneers and leaders in the army of science. This is, after all, a matter of individual force of character, ability and perseverance.

We of that day undoubtedly suffered from overmuch lecturing; the hours were too long; and the constant passing from one class-room to another allowed of no time for reflection on what we had heard; while the evenings were largely taken up with the writing out and arrangement of notes taken during the day. Over-lecturing did not go out with the sixties; it is still rampant, and is still one of the bugbears of the student's life.

One word as to another point in University life. Thirty-five years ago the University system was an Aristocracy, almost a Tyranny. The Professors were absolute rulers. The students represented the Plebs. They had no organisation, no power, no cohesion, no influence. But the democratic spirit which has affected the body politic has had its counterpart in University life. The student of to-day is a force which has to be reckoned with; he has a Union and a Representative Council, and can make his voice heard, and his wishes, if they be strong and unanimous, respected and carried out. This is a great change and a great gain. With more power comes more responsibility and greater thoughtfulness. The whole tendency of the movement is towards the growth and expansion of the school into a united and effective organism.

Clinical Record

BULBAR SYMPTOMS IN PARALYSIS AGITANS

By ASHLEY W. MACKINTOSH, M.A., M.D.,
Assist.-Physician to the Aberdeen Royal Infirmary.

THE occurrence of bulbar symptoms in paralysis agitans, either as part of the symptomatology proper or as a complication, is scarcely, if at all, noted in text-books. The following case seems, therefore, worthy of record, inasmuch as it is, in its general features, a typical example of paralysis agitans, while bulbar symptoms are very prominent, and salivation is, indeed, the most troublesome and the chief complaint.

Notes of the case.—J. M., aged 67, was seen first in April 1902. His chief complaints, in addition to general weakness, were: (1) a constant flow of saliva—the most troublesome symptom; (2) weakness of voice; (3) tremors; (4) difficulty in writing; (5) frequency of micturition and difficulty in retaining urine.

History.—Tremor was noted first in the right hand about three years before, but no tremor of the right leg had been observed; the left hand became affected with tremor about one and a half to two years later. He had noted that the tremor could be stopped voluntarily for a short time, and that it was always much worse when he was excited or worried. He had become much stiffer generally, had difficulty in lifting his feet, and was apt to stumble in walking and tended to quicken his pace; he had increasing difficulty in turning in bed. He did not suffer from any special feeling of restlessness or internal heat or marked sweating; he had no head-pain, but sometimes there was a feeling of a weight on the back of his head "as if pulling it back." For two years his voice had been affected—it had become weak and, when he used his voice, he had a choky feeling, as if something were coming up his throat. For some weeks he had been greatly troubled by a constant flow of saliva. Lately, also, he had experienced a very frequent desire to pass water and difficulty in retaining it. Writing had become a great burden to him, not because of the shaking of the hand—"it stops when I begin to write"—but because of difficulty in forming the letters, although he knew quite well how they should be formed.

Notes of condition in April 1902.—His general health and nutrition are good; there is no cardiac lesion; his pulse is excellent, quite regular, about 70, tension does not seem much

greater than normal; the vessel walls show marked arterio-sclerosis. The prostate is enlarged; the urine indicates mild cystitis. His attitude and general appearance are typically those of paralysis agitans; all his movements, including those of the neck, are very stiff; his body is flexed, arms rather abducted, hips and knees somewhat flexed; he walks with a shuffling gait, but there is no marked tendency to festination, and neither propulsion nor retropulsion is very evident; his expression is very fixed, his brow greatly wrinkled. Slow, rhythmical tremors are present in both hands, especially the right; pill-rolling movement is very marked, with flexion and extension and some lateral movement of the wrists; the tremor scarcely, if at all, affects the upper arm. Occasionally tremor is also noted in the legs, causing flexion and extension of the ankles. No tremor of head, face, lips, tongue, masseters is present. The tremor of the hands can always be stopped voluntarily for a time, and it also ceases when he grasps an object firmly. It becomes very marked when his attention is quite withdrawn from it, and he does not know that his hands are being watched. He can hold out his hands and spread out his fingers with wonderful steadiness. His writing is very small and cramped—much more so than it used to be; he does not seem to have much difficulty in forming the letters, and, even when examined with a lens, there is practically no sign of any tremor in the formation of the letters—this is true also of his attempt to draw a straight line on paper. Muscular rigidity or fixation is marked; motor power is fairly good, but very slowly put in force; the right grasp is distinctly less than the left; both arms and legs offer considerable resistance to passive movement when it is first performed, but when this initial resistance is overcome the limbs appear normally flaccid; the knee-jerks are active and equal; there is no ankle clonus. No affection of sensation, subjective or objective, is present. There is no headache, no tenderness of cranium. The optic discs are normal; there are no pupillary or ocular symptoms; there is no evident stiffness in movement of the eyes; the facial expression is very fixed, but occasionally, when amused or excited, it relaxes very markedly in rather a spasmodic way, and then slowly resumes its normal appearance; the brow is deeply wrinkled, especially on the left side, so that it is practically impossible to test for Moczutkowsky's sign of persistence of the folds in active wrinkling; all the volitional facial movements are very slow, but otherwise normal. The tongue is protruded very slowly and markedly to the left; there is difficulty in elevating the tip; no tremor is noted, and no localised wasting, but the whole tongue appears soft and flabby. Saliva dribbles con-

stantly, especially from the right angle of the mouth, and necessitates the almost constant use of a handkerchief or towel. There is no increased frequency of the act of swallowing, and it is stated that, while he must swallow very carefully and very slowly, he is not specially liable to choking, and fluid does not regurgitate through the nose. His voice is weak and monotonous, and his articulation thick, indistinct and slovenly, especially when he gets excited; there is no sign of aphasia. Mentalisation is slow; occasionally there is a marked emotional tendency, especially towards weeping.

The patient was not seen again till November 1902. In the interval he had suffered for some weeks from retention of urine, requiring catheterisation, but otherwise his condition was very little changed, and the prominent features remained the same. Between November 1902 and May 1903, he was seen very frequently. During the whole time, much the most troublesome symptom, and his chief complaint, was the salivation; this continued day and night, thoroughly soaking through a large number of towels and handkerchiefs in the course of twenty-four hours. It was noted that the salivation was always worse when he was excited, also after drinking, and after an occasional emotional display; it was also generally worse in the evening. The necessity for frequent and precipitate micturition continued unabated, and the patient observed that, when the bladder-trouble was specially bad, the salivation was less marked. His general strength fell off but little; there was no notable increase in the tremors, which were always confined to the limbs, and were stated to cease entirely during sleep; the muscular stiffness increased somewhat; walking became rather more shuffling, and latterly he complained much more of a tendency to stagger backward, due to a feeling of a ball in the back of his head pulling him back—on one occasion he did actually fall backwards. His voice varied very much in strength, but, on the whole, showed no distinct increase in weakness; his articulation had always the thick, bulbar element, and the tongue was protruded, as before, very slowly and markedly to the left. There was no increased dfficulty in swallowing. He never complained specially of sweating or of hot feelings, but his face was generally covered by a fairly profuse secretion of sweat.

No local condition of the mouth could be found to account for the salivation. Various mouth-washes and general tonic treatment were tried without any effect, so far as either the tremors or the salivation were concerned. Belladonna and hyoscine were advised at different times, but were not continued for a sufficient length of time, as they always were thought to aggravate the bladder-troubles.

Remarks.—There seems to be no reason to doubt that, so far as the general features of the case are concerned—the attitude, the tremors, the muscular rigidity—it is a case of paralysis agitans. How are we to explain the occurrence of the marked salivation and other bulbar symptoms (bulbar articulation, weak movement of the tongue with protrusion markedly to the left, etc.)? Two views, at least, may be held—either the bulbar symptoms are due to a bulbar lesion (probably of vascular origin and associated with the marked arterio-sclerosis present), which has no direct or necessary relationship to the lesion causing the symptoms of paralysis agitans; or the latter symptoms are due to a lesion which implicates the medulla, probably along with other parts of the central nervous system. The modern view of the pathology of paralysis agitans points to the cerebral cortex as the site of lesion, but Parkinson noted an induration of the pons, medulla and cord, and this has been confirmed by several later observers. The first explanation seems to the writer the more probable one, especially in view of the fact that bulbar symptoms have scarcely been noted in paralysis agitans. Oppenheim has, however, recently (*Jour. f. Psych. und Neurol.*, Bd. 1, 1902, S. 134) expressed the opinion that salivation is "by no means a rare" symptom of paralysis agitans, appearing as a rule at the beginning of the trouble, and sometimes even before any other symptom. He gives notes of six cases in which salivation was one of the most prominent and troublesome symptoms, and in one of which it preceded the tremor in onset. He thinks that the salivation is mainly a true hypersecretion of saliva, analogous to hyperidrosis, with which it appears usually to be associated in paralysis agitans. (In the case recorded above there was never marked sweating.) Oppenheim also refers to several cases of paralysis agitans under the observation of Bruns, in which marked bulbar symptoms were present in addition to salivation, viz., dysphagia, dysarthria and disturbance of the movement of the tongue.

It may be, therefore, that bulbar symptoms occur not infrequently in paralysis agitans—although it seems strange that such obvious symptoms should have so long received little, if any, attention—and it is mainly with the view of eliciting more information regarding the frequency of their occurrence that the case detailed above has been deemed worthy of record.

Medical Education in Scotland

IN order to obtain in Scotland a legal qualification to practise medicine, the student must conform to the regulations of the General Medical Council; he must pass a preliminary examination recognised by the Council; must then register as a medical student; must study at a recognised medical school for a period of at least five years after registration; and having then obtained a registrable degree or diploma, this qualification must be recorded in the *Medical Register.*

Each University confers four registrable degrees: Bachelor of Medicine and Bachelor of Surgery (M.B., Ch.B.)—which must be obtained and conferred at the same time, and which cannot be obtained until the candidate has attained the age of twenty-one years; Doctor of Medicine (M.D.); and Master of Surgery (Ch.M.). The three medical corporations, the Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, and the Faculty of Physicians and Surgeons of Glasgow, co-operate in conducting conjoint examinations for the "Triple Qualification" (L.R.C.P.E., L.R.C.S.E., L.F.P.S.G.), which likewise admits to the *Medical Register.*

The Universities

PRELIMINARY EXAMINATION. — Each student must pass this examination before commencing medical study. At the matriculation office of each University, candidates can obtain schedules, which must be filled up and lodged not later than certain dates in March and September respectively. The fee for examination is 10s. 6d., and should be paid at the time of lodging the schedule. Candidates are examined on the following subjects:—

(1) *English.*—There is one paper comprising two questions on British History, two on Geography, four on Grammar (correction of sentences, parsing, analysis of sentences, and derivations), two of a literary and general nature, and the candidate has also to write an essay, and paraphrase a portion of verse. Answers are required to eight questions, and one answer in History, one in Geography, the essay, and the paraphrase are essential.

(2) *Latin.* — Translation, Parsing, Grammar, Prose Composition, and Sentences.

(3) *Elementary Mathematics.* — (*a*) Arithmetic (fractions, proportion, percentage, square root, and simple interest); (*b*)

Algebra (fractions, factors, square root, equations of the first degree, simultaneous equations of the first degree, quadratic equations and problems leading thereto); (*c*) Geometry (Euclid, Books I., II. and III., or their equivalents, with simple deductions).

(4) *Greek, or French, or German.*

French or German.—Grammar, translation into English and into French or German, and short idiomatic sentences for translation from English.

Greek.—Grammar, translation into English, and of short sentences into Greek.

It is compulsory that the subjects be passed at not more than two examinations, but there is no restriction on the number of times the candidate may present himself for examination. A degree in Arts or Science in any University of the United Kingdom, and in any Colonial or Foreign University specially recognised, the Lower Grade Leaving Certificate of the Scottish Education Department, and certain other examinations, are accepted as equivalents for the preliminary examination. The preliminary examination conducted by the Educational Institute of Scotland is not accepted as an equivalent examination.

MATRICULATION.—Having passed the preliminary examination, the student must, within fifteen days after the commencement of the session, make the required entries in the Matriculation Album of the University, and pay the matriculation fee, which is one guinea for the whole year, half a guinea for the summer session alone. The student must matriculate each year of study.

REGISTRATION.—Within fifteen days after commencement of study, he must register as a medical student. He must be not less than sixteen years of age, must have passed the preliminary examination, and must produce to the Registrar (James Robertson, Esq., 54 George Square, Edinburgh) an application form duly filled up, showing that he has commenced medical study.

THE CARNEGIE TRUST.—This Trust is prepared to pay the class fees of students (who have passed the University preliminary examination) for all classes, whether attended within the University or within the School of Medicine of the Royal Colleges. The Trust is also prepared to pay the class fees for students proceeding to the Triple Qualification, provided that the applicant has passed the preliminary examination recognised by the Trust. It is also prepared to pay the fees for the various special classes given by many of the Lecturers upon advanced and non-compulsory subjects. Three qualifications

are demanded: the applicant (1) must be over sixteen years of age; (2) must be of Scottish birth or extraction, or must have given two years' attendance after the age of fourteen at a school or institution under inspection of the Scottish Education Department; and (3) must be qualified by preliminary examination under the ordinances of the Scottish Universities Commission and the regulations of the Joint Board of Examiners, to attend the classes for which payment of fees has been claimed. Schedules of application for admission to the benefit of the Trust are obtainable by written application to the Secretary of the Trust, 14 Hanover Street, Edinburgh.

Professional Education at Edinburgh University

It is more advisable for the student to commence study at the beginning of the summer, than of the winter session. The student who commences in summer should attend the classes in the following sequence:—

First Summer.— Elementary Botany and Zoology.
Examination in these subjects in July.

First Winter.— Chemistry and Practical Chemistry.
Physics (three months' course).
Anatomy Lectures.
Examination in Chemistry, Practical Chemistry and Physics in March.

Second Summer.—Practical Anatomy—Histology.

Second Winter.— Physiology (Lectures, Practical Chemical and Practical Experimental Physiology), Practical Anatomy, Surgery,[1] Hospital and Clinical Surgery (after Christmas).

Third Summer.— Practical Anatomy, Practical Materia Medica, Clinical Surgery and Surgical Ward Work.

Third Winter.— Anatomy (Practical and Demonstrations), Materia Medica, Clinical Surgery and Surgical Ward Work (up to Christmas).
Examination in Anatomy and Physiology in March.

Fourth Summer.—Practical Pathology, Clinical Medicine and Medical Ward Work, Dispensary.
Examination in Materia Medica in July.

Fourth Winter.— Pathology, *Post-Mortems*, Practice of Medicine, Midwifery and Gynæcology, Clinical Medicine and Ward Work.
Examination in Pathology in March.

[1] Or in the third Winter Session

Fifth Summer.— Forensic Medicine, Public Health, Hospital and Clinical Medicine, Ophthalmology, Diseases of Children (or Larynx, Ear and Nose, or Skin Diseases), Mental Diseases.

Fifth Winter and Final Summer—
Hospital and Clinical Medicine, Dispensary, Vaccination, Fevers, Practical Midwifery, Operative Surgery (in summer).
Examinations in Surgery and Clinical Surgery, Medicine and Clinical Medicine, Midwifery and Gynæcology, Forensic Medicine and Public Health in April, May and June.

If the student commences in winter, the course of study is as follows :—

First Winter.— Physics (three months), Chemistry and Practical Chemistry, Anatomy (Lectures and Practical).
Examination in Chemistry, Practical Chemistry and Physics in March.

First Summer.— Elementary Botany and Zoology.
Examination in these subjects in July.

Second Winter.— Same as above-mentioned second winter.

Second Summer.—Same as above-mentioned third summer, with in addition Practical Physiology (Histology).

And thereafter as in the above-mentioned Winter and Summer Sessions.

The candidate must attend Hospital for not less than three years; must attend both Clinical Medicine and Clinical Surgery for a period of at least nine months; twelve cases of Midwifery, or six cases and three months' attendance at a Maternity Hospital; and *Post-Mortem* Examinations for three months.

Two of the five years of study must be spent at the University, and not less than eight of the compulsory subjects of study must be taken in the University.

The University degrees are now conferred on Women Students. They do not attend the classes in the University, but at the Medical College for Women, Minto House, which is recognised by the University Court as a Medical School whose courses of instruction qualify for graduation in medicine.

Professional Examinations for M.B. and Ch.B.

First Examination.— Botany, Zoology, Physics and Chemistry.

Second Examination.—Anatomy, Physiology, Materia Medica and Therapeutics.

Third Examination.— Pathology.
Final Examination. — Medicine and Clinical Medicine, Surgery and Clinical Surgery, Midwifery and Gynæcology, Forensic Medicine and Public Health.

The candidate may pass in one or more subjects of an examination, even though he fail in the other subjects. The minimum expense for M.B. and Ch.B., including fees for Classes, Hospital, Matriculation and Examination, amounts to about £143.

Degree of M.D.

Each candidate for this degree, under the new regulations, must be of the age of twenty-four years or upwards, and must have obtained the degrees of M.B. and Ch.B. of the University. He must either have been engaged for two years in general practice, *or* for one year in the naval or military medical services, or in the medical wards of a hospital, or in scientific research. He must present a thesis written by himself on a medical subject, and pass an examination in Clinical Medicine. In this examination the candidate has to write a report and commentary on at least three cases, and has to show a practical knowledge in the applications of the ophthalmoscope, laryngoscope, electrical apparatus and sphygmograph, in the examination of the blood, and in the chemical and microscopical examination of the excreta.

The candidate who has graduated M.B. and C.M. under the old regulations may either proceed to the degree of M.D. under the old regulations (under which he is not required to pass an examination in Clinical Medicine, but must have passed examinations in Greek and in Logic or Moral Philosophy), or he may proceed to the degree as if he had graduated M.B., Ch.B. under the new regulations.

Degree of Ch.M.

Each candidate must be not less than twenty-four years of age, must possess the degrees of M.B., Ch.B., must have attended the surgical wards of a hospital for one year, or have spent one year in scientific research or in the naval or military medical services, or two years in practice other than that restricted to medicine. He must submit a thesis on a surgical subject, and pass an examination on clinical surgery and its branches, surgical anatomy and operations on the dead body.

Fees for M.D. and Ch.M.

The fee for the M.D. degree under the old regulations is five guineas; for the M.D. or Ch.M., under the new regulations, ten

guineas. The candidate must have paid the matriculation fee for the year in which he presents himself for examination or graduation. At each reappearance for examination, under the new regulations, the fee is five guineas.

DEGREES IN PUBLIC HEALTH.

Two degrees are granted by the University of Edinburgh in the department of Sanitary Science, viz., B.Sc. and D.Sc.

Bachelor of Science.

Candidates must be graduates in Medicine of a University of the United Kingdom or of some other recognised University. In order to obtain the degree, two examinations have to be passed.

First Examination.—Before entering for this examination, the candidate must, after graduating in Medicine, have worked in a recognised Public Health Laboratory for eight months, of which five consecutive months must be passed in the Public Health Laboratory of the University of Edinburgh.

He must also have attended in a Scottish University a course of lectures on Physics and a course of lectures on Geology, extending over three months, and both of which are approved of by the University Court.

The subjects of examination are as follows:—

(1) *Laboratory* work—Practical, written and oral; examination of water, air, foods, beverages, condiments, sewage; soils; disinfectants; building materials; clothing; bacteriology.
(2) Physics. (3) Geology.

Second Examination.—This cannot be taken until eighteen months after graduating in medicine; nor sooner than six months after passing the First B.Sc. Examination. The candidate must have attended two separate courses in Public Health, either in the University of Edinburgh or in some other recognised University or School.

Each course must consist of forty lectures, and includes Medicine in its relation to Public Health and Sanitary Engineering.

The candidate must likewise produce evidence that (1) for six months he has studied sanitary work under a Medical Officer of Health for a county or borough of not less than 25,000 inhabitants; (2) that he has studied clinically for three months infectious diseases in a recognised institution; (3) that for three

months he has been instructed by a recognised teacher in mensuration and drawing.

The subjects of examination are :—

(1) Sanitation ; (2) Sanitary Law ; (3) Vital Statistics ; (4) Medicine in relation to Public Health.

The candidate is examined orally, practically, and by a written paper. *Sanitation* includes making reports on dwellings, workshops, hospitals and sanitary schemes.

The University Court may modify the work and instruction prescribed from time to time.

Doctor of Science.

A graduate after having held the degree of B.Sc. for five years may present himself for the D.Sc. He must present a thesis, or a published work or memoirs, the result of his own research, and must pass an examination in Public Health, and in such of its special subjects as the Senatus may determine. The candidate must submit the subject in which he proposes to be examined for approval not less than two months before the examination.

Fees Payable.—First and second examinations, £3, 3s. each ; for D.Sc., £10, 10s.

Institutions for Clinical Instruction in Edinburgh

Royal Infirmary. 740 beds and 40 cots. Fees—perpetual ticket, £12 ; one year, £6, 6s. ; six months, £4, 4s. ; three months, £2, 2s. Clinical instruction is given daily in Medicine, Surgery, and all their special branches.

Royal Hospital for Sick Children. 120 beds.

Royal Maternity and Simpson Memorial Hospital. 40 beds.

City Hospital for Infectious Diseases. 600 beds.

Royal Asylum, Morningside. 500 beds.

The fee for a qualifying course at each of these last four institutions is £2, 2s.

Victoria Hospital for Consumption and Diseases of the Chest. 50 beds. Out-Patient Department at 26 Lauriston Place.

Eye, Ear and Throat Infirmary. 6 beds ; 2700 Out-Patients yearly. Fee for three months, £1, 1s.

Royal, New Town, Medical Missionary (Cowgate), Western, Provident (Marshall Street), Eye and Skin Dispensaries.

Professors and Lecturers in Edinburgh

The courses given by the Extra-Mural Lecturers are re-

cognised by the University and other examining boards as qualifying for graduation.

Botany— Professor Bayley Balfour, M.D., Botanical Gardens.
J. A. Terras, B.Sc., New School.
R. S. MacDougall, M.A., D.Sc.

Zoology— Professor J. Cossar Ewart, M.D., University.
A. T. Masterman, D.Sc., Surgeons' Hall.
Marion I. Newbigin, D.Sc., Minto House.

Biology— A. T. Masterman, D.Sc., Surgeons' Hall.
Marion I. Newbigin, D.Sc., Medical College for Women, Minto House.

Physics— Professor J. G. MacGregor, D.Sc., University.
Dawson Turner, M.D., Surgeons' Hall.

Chemistry— Professor Crum Brown, M.D., University.
A. P. Aitken, D.Sc., Royal Veterinary College.
J. Falconer King, F.C.S., Minto House.
G. H. Gemmell, F.I.C., 4 Lindsay Place.
James Kerr, B.Sc., Surgeons' Hall.
T. W. Drinkwater, Ph.D., 5 Teviot Place.

Anatomy— Professor D. J. Cunningham, M.D., University.
J. Ryland Whitaker, M.B., Surgeons' Hall.
R. J. A. Berry, M.D., New School.

Physiology— Professor E. A. Schäfer, LL.D., University.
D. Noël Paton, M.D., Surgeons' Hall.

Chemical Physiology—
D. Noël Paton, M.D., Surgeons' Hall.
John Malcolm, M.D., University.

Experimental Physiology—
D. Noël Paton, M.D., Surgeons' Hall.
Sutherland Simpson, M.D., University.

Histology— D. Noël Paton, M.D., Surgeons' Hall.
P. J. Herring, M.D., University.

Materia Medica and Therapeutics—
Professor Sir Thomas R. Fraser, M.D., University.
William Craig, M.D., Surgeons' Hall.
William Wood, M.B., Nicholson Square.

Pathology— Professor W. S. Greenfield, M.D., University.
W. Russell, M.D., Medical College for Women.
Theodore Shennan, M.D., Surgeons' Hall.
Stuart M'Donald, M.B., New School.

Surgery— Professor J. Chiene, C.B., M.D., University.
F. M. Caird, F.R.C.S.E., New School.

J. W. B. Hodsdon, F.R.C.S.E., Surgeons' Hall.
H. Alexis Thomson, F.R.C.S.E., Minto House.
David Wallace, C.M.G., F.R.C.S.E., Nicholson Square.
Alex. Miles, F.R.C.S.E., New School.
J. W. Dowden, F.R.C.S.E., Medical College for Women.
A. A. Scot Skirving, C.M.G., F.R.C.S.E., Nicholson Square.

Clinical Surgery—
Professor Annandale, F.R.C.S.E., Royal Infirmary.
C. W. MacGillivray, F.R.C.S.E., „
J. M. Cotterill, F.R.C.S.E., „
C. W. Cathcart, F.R.C.S.E., „
F. M. Caird, F.R.C.S.E., „

Practice of Medicine—
Professor J. Wyllie, M.D., University.
Alex. James, M.D., New School.
Byrom Bramwell, M.D., New School.
G. A. Gibson, M.D., Minto House.
R. W. Philip, M.D., New School.
R. A. Fleming, M.D., 27 Nicholson Square.
Alex. Bruce, M.D., Surgeons' Hall.

Clinical Medicine—
The Physicians of the Royal Infirmary.

Midwifery and Gynæcology—
Professor A. R. Simpson, M.D., University.
Sir J. Halliday Croom, M.D., Minto House.
D. Berry Hart, M.D., Surgeons' Hall.
R. Milne Murray, M.D., New School.
J. W. Ballantyne, M.D., Surgeons' Hall.
A. H. F. Barbour, M.D., New School.
F. W. N. Haultain, M.D., New School.
J. Haig Ferguson, M.D., New School.
W. Fordyce, M.D., New School.
J. Lamond Lackie, M.D.

Insanity— T. S. Clouston, M.D., University and Royal Asylum.
Sir J. Batty Tuke, M.D., and G. M. Robertson, F.R.C.P.E., Surgeons' Hall and Stirling District Asylum, Larbert.

Diseases of the Eye—
G. A Berry, M.B., University and Royal Infirmary.
G. Mackay, M.D., Surgeons' Hall and Royal Infirmary.
W. G. Sym, M.D., Eye, Ear and Throat Infirmary.

Vaccination—J. B. Buist, M.D., Western and Cowgate Dispensaries.
Francis Cadell, M.B., Marshall Street and New Town Dispensaries.

Diseases of Children—
Staff of the Sick Children's Hospital.

Diseases of the Skin—
W. Allan Jamieson, M.D., Royal Infirmary.
Norman Walker, M.D., Royal Infirmary.

Diseases of the Ear, Nose and Throat—
R. McKenzie Johnston, M.D., Royal Infirmary.
A. Logan Turner, M.D., Surgeons' Hall.
J. Malcolm Farquharson, M.B., New School.

Forensic Medicine—
Professor Sir Henry D. Littlejohn, M.D., University.
Harvey Littlejohn, F.R.C.S.E., Surgeons' Hall.
W. G. Aitchison Robertson, F.R.C.P.E., New School.

Public Health—
Professor C. Hunter Stewart, M.B., University.
W. G. Aitchison Robertson, F.R.C.P.E., New School.
C. J. Lewis, M.D., Minto House.

Fevers— J. O. Affleck, M.D., City Hospital.
C. B. Ker, M.D., Surgeons' Hall.

Bacteriology—J. M. Beattie, M.D., University.
T. Shennan, M.D., Surgeons' Hall.
J. Taylor Grant, M.D., 4 Lindsay Place.
Stuart M'Donald, M.B., New School.

Diseases of Tropical Climates—
A. Davidson, M.D., University.

Practical Medicine and Physical Diagnosis—
R. W. Philip, M.D., and G. Lovell Gulland, M.D., New School.
R. A. Fleming, M.D., Nicholson Square.
F. D. Boyd, C.M.G., M.D., Surgeons' Hall.

Neurology— Alex. Bruce, M.D., Surgeons' Hall.
J. J. Graham Brown, M.D., New School.

Diseases of the Chest—
R. W. Philip, M.D., 26 Lauriston Place.
G. Lovell Gulland, M.D., 26 Lauriston Place.

Medical Electricity and Röntgen Rays—
Dawson Turner, M.D., Surgeons' Hall.

Practical Gynæcology—
N. T. Brewis, M.D., 5 Cambridge Street.
J. Haig Ferguson, M.D., Leith Hospital.

Diseases of the Blood—
G. Lovell Gulland, M.D., Surgeons' Hall.

Glasgow University

The medical curriculum at the University extends over five years, and the classes are held in the handsome buildings at Gilmorehill, adjacent to which lies the Western Infirmary, where there is an excellent field for clinical and practical work.

The Faculty of Medicine embraces the classes of Botany, Zoology, Physics, Chemistry, Anatomy, Embryology, Physiology, Materia Medica and Therapeutics, Pathology, Medical Jurisprudence and Public Health, Surgery, Clinical Surgery, Practice of Medicine, Clinical Medicine, Midwifery, Insanity, Diseases of the Eye, Diseases of the Ear, Diseases of the Throat and Nose, Diseases of the Skin, and Diseases of Children.

The cost of the medical curriculum is about £126.

Before the commencement of medical and surgical studies the preliminary examination has to be passed. The names of candidates for this examination must be given in and the fee of 10s. 6d. paid to the assistant clerk at the Matriculation Office. At the Matriculation Office successful students can obtain the registration forms which must be filled up and sent to 48 George Square, Edinburgh.

The University of Glasgow offers many attractions to students. The professional chairs are occupied by able men, some of them of world-wide renown; and in the Western Infirmary with the recent additions to its surgical theatres, and its excellent pathological laboratories and museum, a splendid field of observation is open to the student. There are also extremely good opportunities for practical work in the various dispensaries of the city, in the Maternity Hospital with its large out-door department, and also at the Royal Hospital for Sick Children, the Eye Infirmary, and the Royal Asylum at Gartnavel.

The Students' Union, situated in the University grounds, is very convenient, and much taken advantage of.

Lodgings are to be found all round the neighbourhood, so that the whole life of the student, his work and his recreation, is drawn into a small circle, within which he can move as busily and as profitably to himself as in any teaching school in the kingdom.

A student's magazine is usually issued weekly during the session, and has a successful circulation amongst all the students at Gilmorehill. For medical students there is a Medico-Chirurgical Society for debating purposes.

Queen Margaret College for Women

In February 1892 the Universities Commission issued an ordinance empowering the Scottish University Courts to make provision, within the Universities, for instruction of women. The Council of Queen Margaret College in consideration of this provision, made over their work to the University. The "Queen Margaret College" survives now as the part of the University which is devoted to the education of women.

A full course of medicine and surgery is obtainable. The regulations, fees, etc., are similar to those for men. The buildings are pleasantly situated in grounds of their own, close to the Botanic Gardens. The newly-built anatomical department is excellently arranged and most complete. Clinical work is amply provided for in the Royal Infirmary and its Dispensaries, and in the Royal Hospital for Sick Children, the Glasgow Maternity Hospital, the Royal Asylum of Gartnavel, and the Belvidere Fever Hospital. There are also arrangements for special study and research.

Students can have board and lodging at Queen Margaret Hall, within easy reach of the College, at the rate of about one guinea per week for each week of the session. The school is flourishing and largely attended. There is a winter session commencing in October and a summer session in April.

All information necessary can be obtained from Miss Galloway, Queen Margaret College, Glasgow.

St Mungo's College Medical School, Glasgow

St Mungo's College was the outcome of the Royal Infirmary Medical School which was opened in 1876. The venerable Infirmary has now actively existed for one hundred and five years, and the students of St Mungo have peculiarly good opportunities for practical and clinical work in the wards and dispensaries. To the Royal Infirmary a large number of accidents are admitted, and numerous medical cases of all kinds; and for students, and more especially for house-surgeons and house-physicians, the practical experience is abundant. St Mungo's College buildings are attached to the Dispensary

and adjacent to the Infirmary. The winter session opens in October, and there is always a summer session from April to July. All information regarding classes, fees, etc., can be obtained from the Dean, St Mungo's College, 86 Castle Street, The classes are for male students only. The class-rooms and laboratories have accommodation for 300 or 400 students. The anatomical department consists of large, well-lighted dissecting-rooms, a lecture-room, and osteology gallery and museum. There are also chemical, physiological, zoological, and botanical laboratories. In the adjacent dispensaries fully 40,000 patients are seen yearly. Students can also have access to the well-equipped Pathological Museum and Laboratory of the Infirmary and the bacteriological department.

The electrical department of the hospital is one of the best in the country.

The bursaries are few in number, but the class fees are moderate, averaging two guineas for a winter course, while the combined theoretical and practical courses of anatomy, zoology, physiology and pathology are four guineas each.

A Public Health Laboratory is also open to students for a complete course in practical work, and there are two lectureships on this subject, so that those who desire may conform to the new regulations of the Medical Council and the requirements of the examining boards. Excellent instruction in fevers can be obtained at the Belvidere Hospital. Dressers and clerks are chosen from the students for work in the wards of the Infirmary.

Anderson's College Medical School

Dumbarton Road, Partick, Glasgow

The old institution known as "Anderson's University" was founded by John Anderson, M.A., F.R.S., in 1726, and the medical school connected therewith dates back to the year 1800.

In 1877 the name of the Institution was altered from "Anderson's University" to "Anderson's College." In 1887 the medical school of Anderson's College became a distinct Institution known as "Anderson's College Medical School."

The new buildings are situated in Dumbarton Road, immediately to the west of the entrance of the Western Infirmary, and four minutes' walk from the University. They are constructed on the best modern principles, and are provided with all the appliances requisite for the conduct and management of a fully equipped medical school.

Lectures are delivered in all the subjects of the five years' curriculum :—

Anatomy—Professor A. M. Buchanan, M.A., M.D.
Chemistry—Professor J. Robertson Watson, M.A.
Physics—Professor Peter Bennett.
Zoology—Professor Geo. Bell Todd, M.B.
Botany—Professor B. G. Cormack, M.A., B.Sc.
Physiology—Professor Robert Fullarton, M.A., M.B.
Surgery—Professor J. H. Nicoll, M.B.
Pathology—At the Western or Royal Infirmary.
Practice of Medicine—Professor R. S. Thomson, M.D., D.Sc., F.R.S.E.
Materia Medica—Professor R. Barclay Ness, M.A., M.B.
Midwifery—Professor John Edgar, M.A., B.Sc., M.B.
Medical Jurisprudence and Hygiene—Professor Carstairs Douglas, B.Sc., M.D., F.R.S.E.
Ophthalmic Medicine and Surgery—T. Spence Meighan, M.B.
Aural Surgery—James Galbraith Connal, M.B.
Diseases of Throat and Nose—John Macintyre, M.B., F.R.S.E.
Mental Diseases—John Carswell, F.F.P.S.G.

Degrees and diplomas.—Certificates of attendance on the lectures at Anderson's College Medical School are received by the Universities of London and Durham, by the Royal University of Ireland, and by all the Royal Colleges and Licensing Boards in the United Kingdom. They are also recognised by the Universities of Glasgow and Edinburgh under certain conditions which are stated in the calendar of this school.

Candidates for the Licence in Dental Surgery can obtain at this school the full medical curriculum which is required. The courses special to dentistry are conducted at the Glasgow Dental School, 15 Dalhousie Street.

Malcolm Kerr Bursary in anatomy. Value about £10. Open to students of the junior anatomy class during session 1903-1904.

Class fees.—For each course of lectures (anatomy, ophthalmic medicine and surgery, aural surgery, diseases of throat and nose and mental diseases excepted): first session, £2, 2s.; second session (in Anderson's College), £1, 1s.; afterwards free. For practical classes (except anatomy), viz., chemistry, botany, zoology, physiology, pharmacy, operative surgery: first session, £2, 2s.; second session, £2, 2s.

Reduced joint fees in zoology and in botany, for lectures and practical class when taken in same summer session, £3, 3s.; for either course separately, £2, 2s.

Anatomy class fees.—Winter—first session (including practica

anatomy), £4, 4s.; second session (including practical anatomy), £4, 4s.; third session, £2, 2s.

Summer—lectures and practical anatomy, £2, 12s. 6d.; lectures alone, £1, 11s. 6d.; practical anatomy alone, £1, 11s. 6d.; osteology and practical anatomy, £2, 12s. 6d.; osteology alone, £1, 11s. 6d.; practical anatomy alone, £1, 11s. 6d.

Ophthalmic medicine and surgery (including hospital practice) *Aural surgery, Diseases of throat and nose, and Mental diseases*, £1, 1s.

Matriculation fee.—Winter, 10s. to those taking out two or more classes; 5s. to those taking out one class only. The matriculation fee of 10s. represents a combined fee for the winter and summer sessions. Summer, 5s., except to those who have paid a fee of 10s. for winter session.

Western or Royal Infirmary.—Fees: Hospital practice and clinical instruction: first year, £10, 10s.; second year, £10, 10s., afterwards free. Six months, £7, 7s. at Western Infirmary; £6, 6s. at Royal Infirmary; three months, £4, 4s. Vaccination fee, £1, 1s. Pathology at Western Infirmary, £3, 3s. Practical pathology, £3, 3s.; at Royal Infirmary, both courses, £4, 4s. Attendance at the dispensaries of the Western and Royal Infirmaries is included in the hospital fees.

A calendar may be obtained from the secretary, Dr R. Barclay Ness, Anderson's College Medical School, Dumbarton Road, Partick, Glasgow.

Aberdeen University

The course of study for the degree of M.B., Ch.B., extends over five years, of which two at least must be spent in the University of Aberdeen.

The curriculum is the same as in the other Scottish Universities as far as relates to attendance on University classes, to clinical study at a General Hospital, to attendance on courses of Clinical Surgery, Clinical Medicine, Mental Diseases, and Practical Pharmacy, to instruction in Vaccination, to attendance on Cases of Labour, and to the practice of a Dispensary.

The candidate must also, before admission to the final examination, produce the following certificates:—

(1) That he has acted as Clerk in the Medical and Dresser in the Surgical Wards of a Public Hospital, each for a period equivalent to one Winter Session.

(2) That he has been present at not fewer than twenty-five *post-mortem* examinations at a Hospital or Dispensary, some of which he must have taken part in performing.

(3) That he has attended for at least three months the practice of a General Fever Hospital with not fewer than forty beds.

(4) That he has attended for at least three months a course of clinical instruction in the Diseases of Children.

(5) That he has attended for at least three months the Ophthalmological practice of a Hospital or Dispensary, where special provision is made for giving instruction.

Certificates for these various classes and courses must attest not only regular attendance, but also due performance of the work.

There is no prescribed order of study, but a scheme, representing the minimum curriculum, has been drawn up for the guidance of students, and is printed in the Calendar.

The following are the Classes in the Medical Faculty:—

WINTER SESSION.

Zoology—Professor John Arthur Thomson, M.A.
Chemistry—Professor Japp, M.A., LL.D., F.R.S.
Anatomy—Professor Reid, M.D., F.R.C.S.
Practical Anatomy—Professor Reid and Assistants.
Physiology (*Syst. and Pract.*)—Professor MacWilliam, M.D.
Materia Medica—Professor Cash, M.D., F.R.S.
Pathology (*Syst. and Pract.*)—Professor Hamilton, M.B., F.R.C.S.E., F.R.S.E.
Surgery—Professor Ogston, C.M., M.D.
Medicine—Professor Finlay, B.A., M.D., F.R.C.P.
Midwifery and Diseases of Women and Children—Professor Stephenson, M.D., F.R.C.S.E.

SUMMER SESSION.

Botany—Professor Trail, M.A., M.D., F.L.S., F.R.S.
Practical Botany—Professor Trail.
Zoology—Professor Thomson.
Practical Zoology—Professor Thomson.
Physics—Professor Niven, M.A., D.Sc., F.R.S.
Practical Chemistry—Professor Japp and Assistants.
Practical Anatomy—Professor Reid and Assistants.
Practical Materia Medica and Pharmacy—Professor Cash and Assistant.
Physiology (*Syst. and Pract.*)—Professor MacWilliam.
Forensic Medicine—Professor Hay, M.D.
Practical Hygiene and Forensic Medicine—Professor Hay.
Pathology (*Syst. and Pract.*)—Professor Hamilton.

Practical Midwifery and Gynæcology and Clinical Diseases of Children—Professor Stephenson.
Tropical Medicine—Dr G. A. Maconachie, Lecturer.

Systematic and Practical Pathology, and Systematic and Practical Physiology respectively are now taught as part of one continuous course, occupying a whole academic year, *i.e.* a summer and a winter session.

There are Assistants to the Professors in the Medical Faculty appointed annually, two in the department of Anatomy, Physiology, Materia Medica, and Chemistry, and one in each of the other departments.

The following are recognised as Lecturers:—

Lecturer on Mental Diseases .	Wm. Reid, M.D.
„ Ophthalmology . .	C. H. Usher, M.B., B.S., F.R.C.S.E.
„ Vaccination . .	R. G. M'Kerron, M.A., M.D.
„ Skin Diseases . .	J. F. Christie, M.A., M.B., C.M.
„ Diseases of Ear, Throat, and Nose . .	J. Mackenzie Booth, M.D., C.M.
„ Ophthalmology . .	A. Rudolph Galloway, M.A., M.B., C.M.

All the University Classes are held at Marischal College.

Tutorial Classes are held in connection with most of the Systematic Courses, and practical instruction is given in the fully-equipped Laboratories connected with the several departments.

Graduates or others desirous of engaging in special study or research may be allowed by the Senatus to work in any of the Laboratories. Such Research Students are exempted from payment of Laboratory Fees (*v. infra*), but must matriculate each year, paying the ordinary Matriculation Fee.

Fees for Ordinary Laboratory Course—

For six hours a week (winter session) .	£3	3	0
Each additional hour („ „) .	0	10	6
For nine hours a week (summer „) .	3	3	0
Each additional hour . . .	0	7	0
Or, For one month (all day) . . .	4	4	0
„ two months („) . . .	7	7	0
„ three „ („) . . .	10	10	0

The Matriculation Fee must be paid in addition.

General clinical instruction is obtained in the following Medical Institutions:—

The Royal Infirmary of Aberdeen.

This General Hospital, situated about seven minutes' walk from Marischal College, has been recently constructed on the most modern principles, and is fully equipped with all the requirements for medical work and teaching. It accommodates upwards of two hundred patients; the number of patients admitted during the year 1902 was 2655, and the number of out-patients treated during the same period was 9554.

Four resident medical officers are appointed annually, two in May and two in August, from those who have completed their medical course, to hold office for twelve months. Salary, £25 with board.

Fees.—Perpetual fee to hospital practice, £6, or first year, £3, 10s., second year, £3, afterwards free; clerkship in medicine, £1, 1s.; dressership in surgery, £1, 1s.; pathological demonstrations, £2, 2s. (Special courses of lectures are charged for.)

Royal Hospital for Sick Children.

It is situated about five minutes' walk from Marischal College.

It accommodates over 80 patients, having recently undergone extension. The number of patients admitted in 1902 was 770, and the number of out-patients treated 1065. No infectious disease except diphtheria is treated.

Each student must act as clerk for six weeks in the medical and surgical wards respectively.

There is one qualified house physician and surgeon (resident) who holds office for six months. Salary at the rate of £25 per annum.

Fee for hospital practice, £2, 2s. first year; subsequent years, £1, 1s.

Royal Asylum.

It is situated about fifteen minutes' walk from Marischal College. It accommodates over 950 patients, and has been recently fitted up with a fully equipped hospital and a laboratory.

The senior physician is recognised by the University as lecturer on mental diseases, and delivers a qualifying course of lectures.

The City (Fever) Hospital.

It is situated about ten minutes' walk from Marischal College, and accommodates 100 patients.

Senior students are admitted for instruction in fevers twice a week under the visiting physician (who is the Medical Officer of Health for the City) and his assistant. Fee, £1, 1s.

There is one qualified resident house physician appointed annually. Salary, £50 and board.

General Dispensary, Maternity Hospital, and Vaccine Institution.

It is situated about ten minutes' walk from Marischal College.

The total number of cases treated during 1902 was 11,711, and the number of patients treated at their own homes, 2725. There were 355 midwifery cases.

Fees.—Perpetual fee, £3, 3s.; vaccination certificate and instruction, £1, 1s.; for special courses, *v. supra.*

Ophthalmic Institution.

This institution is situated about three minutes' walk from Marischal College. The surgeon in charge is recognised by the University as a lecturer on ophthalmology.

During 1902, 55 in-patients and 3389 out-patients were treated.

PROFESSIONAL EXAMINATIONS.

I. Degrees of M.B., Ch.B.

There are four examinations: the subjects and regulations of these are common to all the Scottish Universities.

II. Degree of M.D.

The regulations are common to all the Scottish Universities.

The candidates must be M.B., Ch.B. of Aberdeen University, and twenty-four years of age or upwards.

He must submit a thesis composed by himself, aud pass an examination in clinical medicine.

The following are special regulations with regard to the clinical examination :—

The examination is both written and oral, and consists of the following divisions :—

Part I. (*a*) A written report on one or more clinical cases examined by the candidate.

(*b*) An oral and practical examination at the bedside.

Candidates must be able to use the laryngoscope and ophthalmoscope, so far as they are required in medical cases.

Part II. The candidates must show a high proficiency in a special department selected by himself, *e.g.* Obstetrics, Mental Diseases, Zymotic Diseases, or other departments approved by the Senatus.

Part III. A commentary in writing on a case or cases, a statement of the particulars of which will be submitted to the candidate.

(For dates of submission of thesis, payment of fees, etc., *v.* degree of C.M.)

III. Degree of C.M.

The regulations are common to all the Scottish Universities.

The candidate must be M.B., Ch.B. of Aberdeen University, and twenty-four years of age or upwards.

He must submit a thesis composed by himself, and pass an examination, of which the following are the special regulations:—

The examination is written, oral, and practical, and consists of the following divisions:—

Part I. (*a*) A written report on one or more clinical cases examined by the candidate.

(*b*) An oral and practical examination on cases. Candidates must be familiar with the use of instruments required in investigating diseases of the eye, ear and throat.

Part II. An examination in surgical anatomy and operations on the cadaver.

Each candidate for the degree of C.M. or M.D. must lodge his thesis (accompanied by a signed declaration that the work has been done and the thesis composed by himself) with the Dean of the Faculty of Medicine not later than 1st February for the spring graduation, or 1st June for the summer graduation. He shall at the same time intimate the special department of clinical examination (M.D.) for which he wishes to enter, and pay the necessary fee.

The fee for the degree of M.D. or C.M. is £10, 10s. (exclusive of any stamp duty); re-examination fee is £2, 2s.

IV. Diploma in Public Health (D.P.H.).

The diploma is conferred, after special instruction and examination, on anyone who has been at least twelve months a graduate in medicine of a university in the United Kingdom; if not a graduate of Aberdeen University, the candidate must attend a course of instruction in this University in one or more subjects embraced in the examination for the diploma.

Each candidate must have attended a course of instruction in Public Health.

The qualifying post-graduate instruction embraces:—

(α) Regular attendance, for three months, at a hospital for infectious diseases, at which opportunities are afforded for the study of methods of administration.

(β) Daily association for a period of six months (of which at least three months must be distinct from the period of laboratory instruction) in the duty, routine and special, of Public Health Administration, under the supervision of a recognised Medical Officer of Health.

(γ) Practical instruction, for at least six months, in laboratory work, which includes examination of water, air, soil and foods, and the study of bacteriology, disinfection, ventilation, water supply and sewerage, and the framing of reports of analysis. The laboratory attendance must extend over at least fifteen hours a week.

The qualifying courses of laboratory instruction in Aberdeen University are given in the Public Health Laboratory (Fee, £6, 6s.), and the Bacteriological Laboratory (Fee, £4, 4s.).

The Diploma is conferred after an examination in March and July of each year.

The examination is written, oral and practical, and is divided into two parts.

Part I. embraces the following subjects in their application to Public Health:—

(α) Physics, Engineering, and Meteorology.

(β) Chemistry, Microscopy, and Bacteriology.

Part II. embraces:—

(α) General Hygiene.

(β) Sanitary Law and Vital Statistics.

Part I. may be taken alone, or both parts together.

The written examinations occupy two days, and the oral and laboratory and outdoor examination three to four days.

Candidates must send in their names and pay the fees a fortnight before the examination. Examination fee is five guineas. Re-examination fee one guinea.

SUMMARY OF FEES.

I. University Fees.

(α) Preliminary Examination (each occasion) .	£0 10 6
(β) Matriculation—For whole year . . .	1 1 0
For Summer Session . .	0 10 6

(γ) Class Fees.—

Each Systematic Course—For Winter or Full Course . .	£4	4	0
Each subsequent attendance .	3	3	0
For Summer or Half-Course .	3	3	0
Each subsequent attendance .	3	3	0
Each Practical Course and subsequent attendance	3	3	0
Except { Practical Anatomy in Summer .	2	2	0
Except { Practical Midwifery . .	2	2	0

(δ) Degree Fees—For M.B., Ch.B.—

1st Professional Exam.	£5	5	0
2nd „ „	5	5	0
3rd „ „	5	5	0
4th „ „	7	7	0
			23 2 0
Re-examination fee for not more than two subjects			1 1 9
„ for each additional subject .			0 10 6
For M.D.			10 10 0
For Ch.M.			10 10 0
Re-examination Fee			2 2 0

II. Non-University Fees.

Royal Infirmary—Perpetual Fee . . .	6	0	0
Children's Hospital	2	2	0
Dispensary—Perpetual Fee	3	3	0
City (Fever) Hospital	1	1	0
Lectures on clinical medicine—Winter Session .	4	4	0
„ „ „ Summer „ .	3	3	0
„ clinical surgery—Winter Session .	4	4	0
„ „ „ Summer „ .	3	3	0
Clerkship at Royal Infirmary . . .	1	1	0
Dressership „ „	1	1	0
Course of Lectures on { Mental diseases, Tropical Medicine, Diseases of eye, Diseases of ear and throat, Diseases of skin } Each	2	2	0
Instruction in { Clinical gynæcology, Medical electricity, Anæsthetics, Dental surgery, *Post-mortem* room }			

Instruction in Vaccination £1 1 0

The cost of matriculation, class and hospital fees for the whole curriculum, exclusive of fees for degrees, is usually about £120.

University of St Andrews

The medical degrees are the same as those of the other Scottish universities, and they are granted under similar conditions. The graduation fees for the degree of M.B.., Ch.B., amount to twenty-two guineas, and for M.D. or Ch.M. ten guineas.

United College, St Andrews, affords considerable facilities to students beginning a medical course, especially if they are willing to combine it with a preliminary two years of study for an Arts or Science degree. Under the new regulations, which make it possible to study botany, zoology, chemistry and physics as part of the course for an M.A. degree, the medical student can, during the early years of his medical course, hold some of the many bursaries or scholarships which the University of St Andrews has to offer. For women the large number of Taylour Thomson bursaries, to which female medical students have a preference, makes the course in St Andrews specially advantageous. There are several £20 bursaries for men. The cost of rooms and living is considerably under that in the larger towns. For women there is an excellent residential hall, and other students may attend the common dinners in the Union. The medical course in St Andrews extends over two years, and embraces all the subjects of the first two professional examinations. The other subjects must be studied elsewhere, but the student may take all the examinations in the University and graduate there. There are special buildings for the Medical School.

University College, Dundee, supplies a complete course of medical study, whether the student graduate at the University (St Andrews) or not. Several bursaries are offered for competition among the medical students. Large and commodious new buildings for this medical school are approaching completion. Besides that supervision of individual students which larger schools cannot offer, there are unrivalled opportunities for clinical work in the Royal Infirmary. Already this institution is provided with over 300 beds, including special wards for obstetrics, gynæcology, children's diseases, ophthalmology, and other special departments.

In addition to this, a large building is in process of construction, which will provide an additional 120 beds and

quarters for special research. There is a large outdoor maternity department, and there are dispensaries which are largely attended in the various districts of the city.

The large asylum at Liff provides material for instruction in mental diseases, and the epidemic hospital for that in fevers. There is also the Royal Victoria Hospital where patients suffering from incurable diseases can be visited.

The classes at the United College, St Andrews, are:— Natural philosophy; practical physics; chemistry; practical chemistry; natural history; practical zoology (when taken along with the ordinary classes the fee for each of these three practical classes is £1, 1s.); botany; practical botany; physiology; anatomy; practical anatomy; materia medica; practical materia medica.

ST ANDREWS.

PROFESSORS AND LECTURERS.

Physics— Professor Butler.
Chemistry— Professor Purdie.
Zoology— Professor Mackintosh.
Botany Lecturer—
Mr R. A. Robertson.
Physiology—Dr Harris.
Anatomy Lecturer—
Professor Musgrove.
Materia Medica—
Professor Marshall.

At University College, Dundee, full courses in medicine and in public health are given as follows :—

DUNDEE UNIVERSITY COLLEGE.

PROFESSORS AND LECTURERS.

Physics— Professor Kuenen.
Chemistry— Professor Walker.
Zoology— Professor D'Arcy Thompson, C.B.
Botany— Professor Geddes.
Physiology—Professor Waymouth Reid.
Anatomy— Principal Yule Mackay.
Surgery, Systematic and Operative—
Professor MacEwan.
Surgery, Clinical—
Professor MacEwan.
Mr D. M. Greig.

Medicine, Systematic—
Professor Stalker.
Medicine, Clinical—
Professor Stalker.
Dr Mackie Whyte.
Materia Medica—
Professor Marshall.
Pathology— Professor Sutherland.
Midwifery and Diseases of Women—
Professor Kynoch.
Midwifery and Diseases of Women, Clinical—
Professor Kynoch.
Dr R. C. Buist.
Forensic Medicine—
C. Templeman, M.D., D.Sc., M.O.H.
Ophthalmology—
A. M'Gillivray, M.D.
Mental Diseases—
J. Rorie, M.D.
Diseases of Ear and Throat—
G. T. Guild, M.B.
Vaccination—
R. C. Buist, M.D.

Qualifications given by the Scottish Colleges

The Royal College of Physicians of Edinburgh, The Royal College of Surgeons of Edinburgh, and The Faculty of Physicians and Surgeons of Glasgow, conjointly confer the Triple Qualification (L.R.C.P.E., L.R.C.S.E., L.F.P.S.G.). Female candidates are admitted to the examinations for this qualification, the Regulations being the same for candidates of either sex.

PRELIMINARY EXAMINATION.—This examination must be passed before the Student commences professional study. It may be passed before any of the Boards recognised by the General Medical Council, and enumerated in the Regulations of the Colleges. The Educational Institute of Scotland conducts a qualifying Preliminary examination for medical students, in Edinburgh and Glasgow, on behalf of the Colleges. This examination embraces English, Latin, Mathematics, and either Greek, French, German, or other modern language. All the subjects must be passed at one time. Further particulars are obtainable from S. M. Murray, Esq., 40 Princes Street, Edinburgh.

REGISTRATION.—This is essential: the Regulations have been already given on p. 329.

PROFESSIONAL EDUCATION.—The curriculum must extend over five years. Graduates in Arts or Science of any recognised University who have spent a year in the study of Physics, Chemistry and Biology, and have passed an examination in these subjects for the degrees in question, are exempted from the first year of study. The fifth year of study should be devoted to clinical work in one or more recognised Hospitals or Dispensaries, and to the study of special diseases; but the student may pass six months of the fifth year as a pupil to a registered practitioner deemed capable by the committee of management. For information regarding the payment of class fees by the Carnegie Trust, *vide* p. 330.

ORDER OF STUDY WHICH IS RECOMMENDED.

First Summer.— Physics and Elementary Biology.

First Winter.— Six months' course in Chemistry and Anatomy; three months' course in Practical Chemistry; Practical Anatomy.

Second Summer.—Practical Anatomy; Histology.

Second Winter.— Practical Anatomy; Physiology—Six months' course.

Third Summer.— Three months' course in Pathology, Materia Medica, and Practical Materia Medica; Surgical Hospital Practice.

Third Winter.— Six months' course in Surgery and Clinical Surgery; Attendance at Surgical Wards.

Fourth Summer.—Three months' course in Midwifery and Gynæcology, in Medical Jurisprudence and Public Health, and in Clinical Surgery; Hospital Practice.

Fourth Winter.— Six months' course in Medicine and Clinical Medicine; Hospital Practice.

Fifth Summer.— Three months at Clinical Medicine; Hospital; Insanity; Diseases of Children; Diseases of Eye.

Practical Midwifery—Personal attendance on twelve cases under the supervision of a medical practitioner, *or* three months' attendance at a Lying-in Hospital and personal attendance on six cases.

Fifth Winter.— Hospital Practice; Fevers; Dispensary; Vaccination; Skin Diseases; Ear and Throat Diseases.

PROFESSIONAL EXAMINATIONS.—Four of these are held during the curriculum. Each is held quarterly in Edinburgh and twice a year in Glasgow. Candidates may go up for all the subjects of the first Professional examination at once, or may enter for and pass in any division of subjects. A higher percentage of marks is required, however, from candidates entering for such divisions. Candidates are advised to enter for the entire examination; they must enter for *all* the subjects of the second, third, and final examinations.

First Examination.— Physics, Chemistry, and Elementary Biology. This should be passed before the beginning of the second winter session.

Second Examination.—Anatomy, Physiology, including Histology. This should be passed at the end of the second year of study.

Third Examination.— Pathology, Materia Medica, and Pharmacy. This should be taken at the end of the third year.

Final Examination.— Can only be taken at the end of the fifth year. The candidate must have attained the age of twenty-one.

It includes:—

1. Medicine, Therapeutics, Medical Anatomy, Clinical Medicine.
2. Surgery, Surgical Anatomy, Clinical Surgery, Diseases of the Eye.
3. Midwifery and Diseases of Women and New-born Children.
4. Medical Jurisprudence and Public Health.

FEES FOR PROFESSIONAL EXAMINATIONS.

For each of the first three, £5; for the final, £15. The minimum total expense, inclusive of fees for classes and examinations, amounts to £115.

DIPLOMA IN PUBLIC HEALTH OF THE ROYAL COLLEGES.

The Diploma is granted by the Triple Qualification Board.

1. Every candidate for examination must have held a registrable medical qualification for one year.

2. After obtaining such qualification, he must have attended during six months a recognised Laboratory in which Chemistry, Bacteriology, and the Pathology of the Diseases of Animals

transmissible to man are taught ; and the certificate must show that the candidate has conducted analyses of air, water, sewage, and foods.

3. After obtaining a medical qualification he must during six months have been associated in the duty of Public Health Administration under the supervision of—

(*a*) In England or Wales, the Medical Officer of Health of a county or district having a population of not less than 50,000 ; or

(*b*) In Scotland or Ireland the Medical Officer of Health of a county or district with a population of not less than 30,000 ; or

(*c*) A Medical Officer of Health who is also a teacher in the Department of Public Health in a recognised medical school.

If the candidate have been a Medical Officer of Health he is exempted from this regulation.

4. After obtaining a medical qualification he must have attended for three months the practice of a Hospital for Infectious Diseases.

There are *Two Examinations.* The first includes—(*a*) Laboratory work, with Chemistry and Bacteriology ; (*b*) Physics ; (*c*) Meteorology.

The Second Examination embraces—(*a*) Report on premises visited ; (*b*) Examination at Fever Hospital ; (*c*) Examination at Public Abattoir ; (*d*) Epidemiology and Endemiology ; (*e*) Vital Statistics and Sanitary Law ; (*f*) Practical Sanitation.

Each examination is held bi-annually, in October and May. The fee for each is £6, 6s. ; for re-examination, £3, 3s. Fees and applications to be lodged with JAMES ROBERTSON, Esq., 54 George Square, Edinburgh ; or with ALEX. DUNCAN, Esq., LL.D., 242 St Vincent Street, Glasgow.

MEMBERSHIP AND FELLOWSHIP OF THE ROYAL COLLEGE OF PHYSICIANS, EDINBURGH.

Every applicant for the *Membership* must possess a recognised qualification, and be not less than twenty-four years of age. He must pass an examination on Medicine and Therapeutics, on Clinical Medicine, and on some special Department of Medicine, such as Psychological Medicine, Pathology, Medical Jurisprudence, Public Health, Midwifery, Gynæcology, or Neurology. Having passed this examination the Membership is conferred by election.

The fee for the Membership is thirty-five guineas, except

the applicant be a Licentiate of the College, when it is twenty-five guineas.

Members of not less than three years' standing may be raised by election to the *Fellowship*, the fee being thirty-eight guineas, exclusive of Stamp Duty of £25.

Fellowship of the Royal College of Surgeons, Edinburgh.

Every candidate must be twenty-five years of age, and must have been engaged for two years in the practice of his profession after having obtained a recognised qualification in Surgery. The petition for examination must be signed by two Fellows—a proposer and seconder.

The candidate must pass an examination on Surgery, Surgical Anatomy, Operative and Clinical Surgery, and one optional subject, for example, Ophthalmology, Aural and Laryngeal Surgery, Cerebro-Spinal, Abdominal, Gynæcological, Orthopædic, Dental, Venereal and Genito-Urinary Surgery, Advanced Anatomy or Physiology, Surgical Pathology and Morbid Anatomy, Midwifery, Medical Jurisprudence and Public Health.

The fees amount to £45. If the candidate be a Licentiate of the College the fee is £30.

Medical Education of Women in Edinburgh

Medical College for Women, Minto House.

This College is recognised by the University Court and the Triple Qualification Board as a Medical School, whose courses of instruction qualify for graduation in Medicine. The curriculum and class fees are the same as for male students, proceeding to the University Degree or College Qualification respectively. Clinical tuition is provided in the Royal Infirmary.

The prospectus of the College, and any information regarding the medical education of women in Edinburgh, may be obtained from Miss Mackay, Secretary, Medical College for Women, Minto House, Edinburgh, who will be glad to furnish lists of lodgings to intending students.

THE ROYAL NAVY MEDICAL SERVICE

A CANDIDATE must be between 21 and 28 years of age. He must declare: (1) his age, and date, and place of birth; (2) that he is of pure European descent, the son either of natural born British subjects or of parents naturalised in the United Kingdom; (3) that he labours under no mental or constitutional weakness; (4) that he is ready to engage for general service at home or abroad; (5) that he is registered under the Medical Acts as duly qualified professionally, and what diplomas, etc., he holds. Copies of the Regulations for the entry of candidates for commissions will be furnished on application to the Medical Director-General, Admiralty, 18 Victoria Street, London, S.W.

The entrance examination consists of two parts. Part I.—*Compulsory*—(*a*) Medicine (including Materia Medica, Therapeutics, and Hygiene), 1200 marks; (*b*) Surgery, 1200 marks. Part II.—*Voluntary*—consisting of two divisions: (*a*) French and German (300 marks each); (*b*) Natural Sciences—not more than two of the following subjects—Zoology, Botany, Chemistry, Physiology, Geology, and Physical Geography (300 marks each).

Successful candidates, immediately after passing this examination, will receive commissions as surgeons in the Royal Navy, and will undergo a course of practical instruction in Naval Hygiene, the diseases of warm climates, etc., at Haslar Hospital.

Full Pay (yearly).—Surgeon (on entry), £255, 10s.; after four years' full pay service, £310, 5s.; after eight years' full pay service, £365. Staff-surgeon (on promotion), £438; after four years' full pay service in that rank, £492, 15s. Fleet-surgeons (on promotion), £547, 10s.; after four years' full pay service in that rank, £602, 5s.; after eight years' full pay service, £657; Deputy Inspector-General, £766, 10s.; Inspector-General, £1300.

Allowances.—The senior medical officer of the commander-in-chief's flagship, on a foreign station, receives an allowance of 5s. a day; of the flagship of the senior officer commanding the Channel squadron, and also of the ship of a commodore, or of a senior officer commanding on a foreign station, 2s. 6d. a day. Medical officers conducting the course of instruction at Haslar Hospital receive the following allowances:—The two senior officers employed on this duty, £150 a year each; the junior officer assisting, £50 a year; the junior officer instructing the sick berth staff, £50 a year. Hospital allowances for naval medical officers at home and abroad, in lieu of provisions for

themselves and servants, and for fuel and lights, are as follows:—Deputy Inspector-Generals, at home, £67; abroad, £112; Fleet or Staff-surgeons, at home, £53; abroad, £112; Surgeons, at home, £39; abroad, £108.

Half Pay.—Surgeons under two years' full pay service, 6s.; after two years' full pay service, 7s; after four years' full pay service, 8s.; after six years, 9s.; after eight years, 10s.; after ten years, 11s. a day. Staff-surgeon on promotion, 12s.; after two years' full pay service in rank, 13s.; after four years, 14s.; after six years, 15s. Fleet surgeon on promotion, 17s.; after two years, 18s.; after six years, 20s. Deputy Inspector-General on promotion, 25s.; after two years' full pay service in rank, 27s.; after four years, 29s. Inspector-General, 38s.

ROYAL ARMY MEDICAL CORPS

A CANDIDATE for a commission must be 21 years of age, and not over 28 years of age at the date of commencement of the entrance examination. He must possess a registrable qualification to practise. Regulations, forms of application and declaration may be obtained on application to the Director-General, Army Medical Service, 68 Victoria Street, London, S.W. The Dean of the candidate's medical school will be requested to render a confidential report as to the candidate's character, conduct, professional ability and fitness. The candidate may subsequently be allowed to compete for a commission, having been previously examined as to physical fitness by a Medical Board.

The *Entrance Examination* is of a clinical and practical character, partly written, and partly oral, marks being allotted under the following scheme:—

	Maximum marks.
MEDICINE (written).	
A. Examination and report upon a medical case in the wards of a hospital	125
B. Commentary upon a case in medicine	125
MEDICINE (oral).	
A. Clinical cases; clinical pathology	75
B. Morbid anatomy and morbid histology	75
SURGERY (written)	
A. Examination and report upon a surgical case in the wards of a hospital	125
B. Commentary upon a case in surgery	125

SURGERY (oral)

A. Clinical cases, including diseases of the eye; surgical instruments and appliances . . .	75
B. Operative surgery and surgical anatomy . .	75
Total marks . .	800

Having gained a place in this entrance examination, the successful candidates will undergo two months' instruction in hygiene and bacteriology, after which they will be examined in these subjects. On completion of this course, lieutenants on probation will proceed to the Depôt of the Royal Army Medical Corps at Aldershot for a three months' course of instruction in the technical duties of the corps, and at the end of the course will be examined in the subjects taught.

EXAMINATIONS FOR PROMOTION.

Lieutenant before promotion to Captain (for Lieutenants appointed after March 31st, 1901. This examination may be taken at any time after completing eighteen months' service. The subjects of the examination are: (1) regimental duties; (2) drill; (3) military law; (4) duties and accounts connected with military hospitals and their supplies; (5) other duties of executive medical officers.

Captains before promotion to Majors (for Captains promoted to that rank after July 27th, 1895). This examination may be taken at any time after completing five years' service, after terminating a period of special study. The subjects of the examination are: medicine, surgery, hygiene, bacteriology and tropical diseases, and one special subject from the subjoined list, to which additions may from time to time be made—bacteriology (including the preparation of antitoxins), dental surgery, dermatology, laryngology, midwifery and gynæcology, advanced operative surgery, ophthalmology, otology, pædiatrics, psychological medicine, skiagraphy, specific fevers.

Majors for promotion to Lieutenant-Colonel (for Majors promoted to that rank after March 31st, 1895). This examination may be taken at any time after three years in the rank of Major. The subjects of this examination are: (1) military law; (2) army medical organisation; (3) sanitation of towns, camps, transports, etc.; (4) epidemiology and the management of epidemics; (5) one special subject, *e.g.* (*a*) medical history of important campaigns; (*b*) a general knowledge of the army medical services of other powers; *c*) the laws and customs of war in relation to the sick and wounded.

PAY.

At Headquarters.	Inclusive of all allowances except field and travelling allowances. Yearly.
Director-General	£2000
Deputy Director-General	1500
Assistant Director-General	850
Deputy Assistant Director-General	750

At other Stations.	Daily. £	s.	d.
Surgeon-General	3	0	0
Colonel	2	0	0
Lieutenant-Colonel	1	10	0
„ „ specially selected for increased pay after at least 8 years' service abroad	1	15	0
Major	1	3	6
„ after 3 years' service as such	1	6	0
Captain	0	15	6
„ after 7 years' total full-pay service	0	17	0
„ „ 10 „ „ „ „	1	1	0
Lieutenant on probation and Lieutenant	0	14	0

Adjutant of the Royal Army Medical Corps (Volunteer)—the pay of his rank.

Additional Pay.

Officer not serving on the Headquarters Staff appointed a member of the Advisory Board	£150 a year.
Officer serving as Secretary of the Advisory Board and Nursing Staff	£100 a year.
Officer under the rank of Lieutenant-Colonel holding an appointment as Specialist	2s. 6d. daily.
Quarter-master in charge of Medical Stores at Woolwich	2s. 6d. daily

Charge Pay.

(*a*) Officer in charge of a general or other hospital, or of a division of a general hospital—

	Daily. s.	d.
If in charge of at least 50 beds	2	6
„ „ „ 100 „	5	0
„ „ „ 200 „	7	6
„ „ „ 300 „	10	0
(*b*) Officer in command of the Depôt, Royal Army Medical Corps	5	0

Retired Pay.

	Yearly.
Director-General (after three years' service in the appointment, and 30 years' service) . .	£1125
	Daily. £ s. d.
Surgeon-General	2 0 0
Colonel	1 15 0
Lieutenant-Colonel, or Surgeon-Lieutenant-Colonel, Household Troops—	
After 20 years' service . . .	1 0 0
„ 25 „ „ . . .	1 2 6
„ 30 „ „ . . .	1 5 0
Lieutenant-Colonel, after having been in receipt of the increased pay (5s. a day) for 3 years; or Brigade-Surgeon-Lieutenant-Colonel of the Household Troops—	
Under 30 years' service . . .	1 7 6
After 30 „ „ . . .	1 10 0
Major, or Surgeon-Major of the Household Troops—	
After 20 years' service . . .	1 0 0
After 25 years' service, if his service reckoning for promotion is insufficient to qualify him for promotion to the rank of Lieutenant-Colonel . .	1 2 6
	Gratuity.
Major or Captain—	
After 5 years' service in the rank of Captain	£1000
After 10 years' service, if the officer was commissioned before the date of the Warrant	1250
After 3 years' service in the rank of Major	1800
After 6 years' service in the rank of Major	2500
Surgeon-Lieutenant-Colonel or Surgeon-Major of the Household Troops—	
After 15 years' service . . .	1800
„ 18 „ „ . . .	2500

INDIAN MEDICAL SERVICE

CANDIDATES must be natural-born subjects of His Majesty, between 21 and 28 years of age at the date of the examination, of sound bodily health, and in the opinion of the Secretary of

State for India in Council, in all respects suitable to hold commissions in the Indian Medical Service. The candidate must show proof of age, a recommendation to the effect that he is of regular and steady habits, a certificate of moral character, certificate of registration under the Medical Acts, a certificate of having attended a course of instruction for not less than three months at an ophthalmic hospital, or the ophthalmic department of a general hospital.

The physical fitness of each candidate will be determined by a Board of Medical Officers.

On proving possession of the foregoing qualifications, the candidate will be examined in the following subjects:—

	Maximum Marks Obtainable.
1. Medicine, including Therapeutics . .	1200
2. Surgery, including Diseases of the Eye .	1200
3. Applied Anatomy and Physiology . .	600
4. Pathology and Bacteriology . .	900
5. Midwifery and Diseases of Women and Children	600
6. Chemistry, Pharmacy, and *either* Botany *or* Zoology	600

After passing this examination, the successful candidate will be required to attend one entire course of practical instruction of not less than four months' duration at the Army Medical School and elsewhere in (1) Hygiene; (2) Clinical and Military Medicine; (3) Clinical and Military Surgery; (4) Pathology of diseases and injuries incidental to military service. During the period of instruction each candidate will receive an allowance of 14s. per diem, with quarters, or with the usual allowances of a subaltern in lieu thereof. At the conclusion of the course candidates will be required to pass an examination in the subjects taught during the course.

Pay and Promotion

The rate of pay drawn by a Lieutenant previous to arrival in India is 14s. a day, but a Lieutenant who has been permitted by the Secretary of State to hold a hospital appointment will receive no pay while holding it.

A Lieutenant is promoted to Captain on completion of three years' full-pay service from date of first commission.

A Captain is promoted to Major on completion of twelve years' full-pay service.

A Major is promoted to Lieutenant-Colonel on completion of twenty years' full-pay service.

All promotions from the rank of Lieutenant-Colonel to that of Colonel, and from the rank of Colonel to that of Surgeon-General are given by selection for ability and merit.

Rank.	Years' Service.	Indian Pay and Allowances per Mensem.	
		When not holding an appointment carrying higher pay.	
		R. A. P.	
Lieutenant-Colonel . (hitherto ranking as Brigade - Surgeon - Lieutenant-Colonel)	...	900 0 0	
Lieutenant-Colonel .	25 and over	888 12 0	
„ „ .	20 „	852 3 7	
Major	15 „	677 6 11	
„	12 „	640 14 6	
		A. When not receiving any staff allowance.	B. When receiving staff allowance in addition.
		R. A. P.	R. A. P.
Captain . . .	10 „	500 0 0	450 0 0
„ . . .	5 „	450 0 0	400 0 0
Captain and Lieutenant	Under	350 0 0	300 0 0

Officers holding the principal administrative appointments and substantive military charges of the Indian Medical Service receive higher salaries.

Except in the administrative grades, and in certain special appointments, medical officers are not debarred from taking private practice. No officer, however employed, can receive any staff allowance unless he has passed the examination in Hindustani known as the "Lower standard."

Retiring Pensions and Half-Pay.

Officers of the Indian Medical Service may retire on the following scale of pension:—

	Per annum.
After 30 years' service for pension . . .	£700
„ 25 „ „ „ . . .	500
„ 20 „ „ „ . . .	365
„ 17 „ „ „ . . .	292

All officers of the rank of Lieutenant-Colonel and Major are placed on the Retired List when they have attained the age of 55 years, and all Surgeon-Generals and Colonels when they have attained the age of 60 years.

Officers placed on temporary or permanent half-pay are granted the British rate of half-pay of their military rank as under:—

Rank.	Rates of Half-pay. Per diem.		Per annum.		
	s.	*d.*	£	*s.*	*d.*
Lieutenant-Colonel . .	11	0	200	15	0
Major	9	6	173	7	6
Captain	7	0	127	15	0
Lieutenant . . .	3	0	54	15	0

MEDICAL APPOINTMENTS IN THE COLONIES

Applicants for medical appointments in British Guiana, Jamaica, Trinidad and Tobago, Windward Islands, Leeward Islands, British Honduras, Fiji, Ceylon, Straits Settlements, Malay States, Hong Kong, Mauritius, Scychelles, Gibraltar, Cyprus, St Helena and the Falkland Islands, must be between 23 and 30 years of age, must be doubly qualified, and preference will be shown towards those who have held resident hospital appointments. Applications for medical appointments should be sent to the Assistant-Secretary, Colonial Office.

Information regarding medical appointments in Cape Colony and Natal can be obtained on a plication to the Agent-General to the Cape, 100 Victoria Street, London, S.W., and the Agent-General for Natal, 26 Victoria Street, London, S.W.

Medical appointments in Rhodesia are made by the British South Africa Company; those in the Transvaal and Orange River Colonies are made on the recommendation of the Governor of these Colonies.

Editorial Notes and News

Medical Journalism. DR JOHNSTON is always a popular visitor in Edinburgh, and his numerous friends will read with pleasure and amusement his views on medical journalism. It is only a retired editor who could "let himself go" as Dr Johnston has done, but there are a great many truths in what he says, and we feel sure that each will recognise the failings of his friends, even if he does not recognise his own.

Fiscal Policy. PROBABLY no one expected that important evidence for the "grand inquest of the nation" would be forthcoming in the Presidential Address of the British Association. Although the resignation of the Coroner has somewhat disorganised matters, Sir Norman Lockyer's Address will, we trust, be very carefully considered by the jury.

The claim of £24,000,000 for the establishment of new universities seems large, but it pales into insignificance before the suggestion of Sir Robert Giffen that £100,000,000 per annum should be spent upon education. These large demands have not met with any encouragement in official quarters. Sir William Anson, speaking in Manchester, deprecated any increase in universities, and seemed to question whether much, if any benefit could be got from such an increase.

We are not here concerned with the general Fiscal Policy, but the matter has an interesting application to Medicine. In our profession there are two parties, taking opposite though not necessarily opposing views. The Protection Party aims at legislation which will suppress unqualified practice and the like. The Free Trade party, if one may use the expression, directs its energies to the improvement of the existing profession, making the orthodox article so much better than the unorthodox that it will be evident to all that the best is after all the cheapest article.

Our views on the general fiscal question are not here for discussion, but we unhesitatingly pronounce for the Free Trade Policy in Medicine. Our manufacturers, the teachers of medicine, must move with the times. They must no longer be content with the methods which served them fifty years ago. New machinery is as important in education as in the factory, and the medical curriculum would benefit greatly by some vigorous "scrapping."

It is not only in trade that America is pressing on this country. Twenty years ago an American degree was—well,

not greatly venerated, while American medical education was the subject of contempt. Now there are schools in America which need fear comparison with none other, and that the general level has been greatly raised was pointedly referred to by Sir John Tuke, the Chairman of the Educational Committee of the General Medical Council. We trust that the profession of Medicine will not be forgotten in the inquest.

A Possible Cause of the Increase of Cancer.

THEORISING in the dark is a form of sport which appears to have a peculiar fascination for some minds. Excitement and interest are doubtless maintained by the fact that, if one does not wander too far from probabilities, there is always a possibility of a plausible theory ultimately finding support in facts. Unfortunately this form of sport is not without danger, for the more carefully a theory is constructed the more apt is it to deceive its inventor and to be accepted by him, in the absence of evidence, for the very truth itself. We fear that our contemporary, *The Polyclinic*, in an interesting editorial on "Late Marriages a Possible Cause of the Increase of Cancer," has not entirely escaped this danger.

After some preliminary remarks upon heredity, in the course of which the doctrine of the inheritance of acquired characters is supported by the consideration that "to doubt it would be to set aside all that we most religiously believe as to inheritance" (!), the suggestion is made "that the nearer to the cancer-period in the parent a child is begot the greater is the risk that he may inherit a tissue proclivity to the cancerous process. Now the cancer-period is that of middle age and commencing senility—emphatically it is not that of youth. The children born to young parents are begotten, with very rare exceptions, at periods long prior to the development of cancer or of any special tendency to it. Let us suppose two communities, in one of which marriage shall be prohibited to men until the age of fifty, whilst in the other it shall be encouraged at eighteen. The suggestion made is that in the former there would ensue a definite tendency to the increase of cancer." Such is the theory which is propounded.

"If we next ask whether such an hypothesis is in accord with the facts, it may, we think, be confidently asserted that, so far as we know the facts, it is. Cancer is far less common in the lower animals than in man, and they, as a rule, wed early. In man it is far less common in lowly-civilised communities than it is amongst others. Its recent increase has, indeed, been noted exclusively amongst the more highly-civilised nations, and it is amongst them that, for some centuries past, the age at which

prudence permits marriage has been steadily rising. It is even possible that religious creed may have something to do with the result. Roman Catholicism very properly encourages early marriage, and there are some facts which might seem to show that there is less cancer amongst its adherents than among Protestants. This is notably the case in Ireland, where Dr Matheson's statistics show that the prevalence is "more than double in Protestant Ulster what it is in the peasantry of the south-west." While these facts may, perhaps, be admitted to give some plausibility to the theory under discussion, they seem to us to be of much too general a nature to be accepted as any sort of proof, or to permit us to join the author in asserting that, in the production of cancer, the share taken by lateness of marriage, if small, is "no doubt real." The chief interest of the theory seems to us to lie in the fact that it is one which is capable of definite proof or disproof. The question whether the offspring of late marriages differ in any *specific* direction whatever from the offspring of early marriages is one which is well worth raising. To find any real answer would be a very difficult and a very laborious but not impossible task, and the pages of biological magazines in recent years bear ample testimony to the existence of investigators to whom complex statistical inquiries are as the very breath of life. To some of these we would respectfully suggest that an enquiry into the influence of the age of the parents upon the proclivities of the offspring would form a most valuable contribution to some future number of *Biometrica*.

Reformed Inebriates. WE have received a copy of the Second Annual Report of the Managers (the Corporation of Glasgow) of the Grigenti Inebriate Reformatory. The Report includes a general statement of the work there done, a memorandum on the working of the Inebriates Acts, and special reports by the superintendent and medical officer. The Report states that 66 inebriates, all women, have been treated, that of them 45 had been sufficiently long under treatment to permit of an opinion as to probable success being given, and that the managers are able to express a hopeful opinion of 26 out of those 45. Such a result should be most encouraging. The material being dealt with by the Glasgow corporation appears to be of the lowest order, and if after two years' experience they expect to reform 26 out of 45, or nearly 60 per cent., they should be satisfied with their results. The memorandum as to the working of the Acts has been carefully considered, and is full of interest. It is of a nature which we cannot in a limited space fairly deal with. Suffice it to say that the

opinion expressed is that the power of the Acts should be extended, that all drunken pests should be dealt with, and that the majority of them should be treated in poorhouses as common paupers. We express no criticism on this opinion. The medical officer, Dr Cunningham, in his section of the report, maintains emphatically the opinion that drunkenness is due to a neurosis, and states his reasons for condemning as worthless all patent and proprietary preparations for its treatment.

Opening of the Extra-Mural Schools in Glasgow.

THE opening of the Winter Session in Anderson's College will be inaugurated by an address from Major Ronald Ross, F.R.S., which will be delivered in the College on Friday, October 16, at 11 A.M. Major Ross will lecture on his own special subject, and any medical men who may care to be present will be cordially welcomed. At St Mungo's College the opening function will consist in an address by Professor D. N. Knox, to be given in the College on Thursday, October 15, at 11 A.M. To this the general public, as well as medical men interested in the School, will be admitted.

A Diabetic Home.

HOMES for the Open Air Treatment of Consumption are to be found in almost every county, and the chief advances to be looked for in that direction is that they shall be brought more within the reach of the middle-class purse. We hear with interest of the establishment of a new kind of home, the first of the kind in this country, for the treatment of diabetes. The idea seems good; the diet of these cases is always a trouble when the patient is away from home, but in future he will be able at Bournemouth to spend his time in a pleasant part of the country, in pleasant society, where all are subsisting on similar diets.

The establishment is under the charge of an old Edinburgh graduate, Major Grant, late I.M.S., who, having been for several years Physician to the Madras Hospital, has a large experience at his disposal.

The terms are five guineas per week, and the address is, Ennore, Boscombe, Bournemouth.

The Vaccination Fee Enquiry.

WE agree with the *British Medical Journal* in its criticism of the manner in which this question has been dealt with by the Government. The whole arrangement was a matter of compromise, and it is hardly playing the game to proceed to revise one item of the compromise while leaving all the rest untouched.

We only hope that all that is reported of the reason for the appointment of the Enquiry Committee is not authentic; if it is, we can only further hope that the public vaccinators of England will take a firm stand, and that the rest of the profession will stand by them.

The enquiry does not extend to Scotland. We have our own vaccination difficulties, but there are many of our graduates in England concerned.

There is one matter which we hope will be impressed on the Committee, viz., the important difference between the town and the country vaccinator.

Fees which are sufficiently liberal in town are more often than not utterly inadequate in the country, where the earning of the statutory fee often involves travelling over twenty miles.

Recent Literature

CRITICAL SUMMARIES AND ABSTRACTS

MEDICINE

LAVAGE OF THE BODY IN TOXIC AND INFECTIVE CONDITIONS

By G. LOVELL GULLAND, M.A., B.Sc., M.D., F.R.C.P.Ed.,
Assistant Physician to the Royal Infirmary, Edinburgh

DR G. L. MAMLOCK has recently published (*Fortschr. d. Medizin*, Aug. 22, 1903) an abstract of the principal papers which have appeared on this subject, and the following notes are in the main a translation and resumé of his paper. A full bibliography is given in his work.

As early as 1873 Mosler began to write on the value of large injections of water into the rectum in the treatment of dysentery, of enteric fever, and of enteritis; he reported great improvement from the administration of five litres of water, to which he generally added astringents or antiseptics. This method of treatment was next largely used by Cantani, during the cholera epidemic which occurred in Italy in 1884-86, with excellent results. He employed hot water with tannic acid, and his observations were confirmed by Maragliano, Aufrecht and others. Genersich, indeed, injected as much as fifteen litres, and found that no other method gave such constant and rapid good results.

These authors ascribed the improvement to the astringents or antiseptics added to the water, but Monti in a large series of

cases of enteritis in children found that his results were equally good when a saline solution (0.5 per cent.) was used. He irrigated several times a day with from one to three litres, and succeeded in this way in curing severe cases of cholera, typhoid and dysentery, without other medical treatment. He considered that the effect was due to the systematic removal from the intestine of fæces, and of organisms and their products. He noted, however, as other observers had done, that there was a marked improvement in the general condition after the injections, especially if they were copious; the urine was increased in amount, pulse and respiration improved, somnolence and delirium disappeared, perspiration occurred, and temperature fell in almost all the cases. These facts were simply noted, and no further conclusions or observations were made as to their causation.

Attention was again directed to the subject by workers who used subcutaneous infusions of salt solution. Sahli treated many cases of typhoid, uræmia, etc., in this way, sometimes injecting as much as two litres, and attributed the good results to the furnishing of water to dried-up tissues, to the occurrence of diuresis, and to a consequent washing out of the organism. He regarded the method as indicated in all cases of auto-intoxication, and especially in sepsis, and he found that in many cases he was able to replace subcutaneous injection by giving large quantities of water by the mouth or rectum.

Other authors, as Fiedler, Meinert, Rheiner, Ostermann and Warman have found intestinal irrigations of great value in such conditions as cholera infantum, and in collapse. Bermbach observed that in animals the infusion, subcutaneous or intravenous, can be so regulated that in a given time as much urine will be secreted as saline solution has been introduced. He found also that the evil effects of intravenous injections of cultures of *bacterium coli* can be neutralised, if diaphoresis and diuresis are produced by saline infusion, and the body thus washed out.

Alongside of the successes which were obtained by the introduction of water by the rectum, unfavourable results were found sometimes to occur in cases where the fluid was introduced into the veins or under the skin. Baginsky, for instance, frequently observed intense collapse in children after subcutaneous infusion, and occasionally even death from acute dilatation of the heart, where the quantity used had been large, even though there had at first been an improvement. Others have noted that the intravenous injection of large quantities of fluid is still more dangerous, because of the increased tension in the circulation, so that it is advisable to precede this by the withdrawal of a certain amount of blood.

Moved by all these considerations, Wernitz has used the rectal method in a large number of cases, especially in toxæmias of infective and septic origin, with the view of washing out the body from the intestine. He desires to combat in this way the poverty of the tissues in water, the thirst and the dryness of the mucous membranes, as well as to increase perspiration and the flow of urine. It is not possible to inject the necessary quantities subcutaneously or intravenously, and further both these methods are painful and cumbrous. The injections are not given as high enemata, which always cause defecation, and are troublesome, but in the following way:—

An irrigator is attached to a rectal tube, which is introduced, and a 0.5-1.0 per cent. salt solution is slowly poured in. As soon as there is any desire to defecate, the irrigator is lowered, and part of the fluid is allowed to flow back from the intestine into the irrigator. This raising and lowering of the irrigator is often repeated. The fæces in the intestine are gradually dissolved, gases are developed, and the contaminated water is replaced by fresh. The injection must be very slow and at a low pressure, and the irrigator must be lowered at once if peristalsis or pain occur. From a half to one litre is absorbed in an hour; at first, if there is any accumulation of fæces in the intestine, the amount is smaller, but later it increases, and the procedure should be continued for at least an hour. According to the severity of the case a pause may then be made of one or two hours, and the irrigation then repeated. The first injection serves mainly to empty the intestine and to make the intestinal mucous membrane more capable of absorption; 10-12 injections may be made in the twenty-four hours. In the pauses defecation often occurs.

Though a complete emptying of the bowel may often be desirable in these cases, it is not the most important result to be aimed at. By this method alone is it possible to furnish the organism with unlimited quantities of fluid, without overloading it, for during the slow irrigation time is given to the body to take up as much as it requires, and absorption goes on in strict relation to the strength of the heart at the time. Thus overloading of the circulation is avoided. It is of course impossible to give such large quantities by the mouth.

That absorption from the intestine actually does take place is to be recognised by the increase in the secretion of urine, which may reach 5 or 6 litres in the day; by disappearance of thirst, by moisture of the mucous membranes, and specially by the appearance of perspiration. This last, however, only occurs after prolonged irrigation, and is not accompanied by collapse or weakness. The fall of temperature continues as long as fluid

is being introduced; during the pauses the temperature rises, though without rigors, then falls again when the procedure is resumed, until at last the normal is reached.

Wernitz specially warns us that these directions must be minutely adhered to, and that the injections should, whenever possible, be given by the doctor himself, and certainly never entrusted to unskilled hands. He has treated the most severe septic cases in this way, and by 7-8 hours of continuous infusion saved his patients from all danger. He recommends the method even in peritonitis, and in sepsis with a local focus still present. His own observations were mainly on acute septic cases, but his method has been used with the same success in more chronic cases, where there had been severe organic changes. Behm, for example, treated a case of puerperal sepsis, which had resisted all treatment for five weeks, in this way, with a perfect result.

A very large number of observations in another set of cases have been made by Ljubomudroff and by Tscherepnin. They treated cases of typhus, typhoid, erysipelas, scarlatina, smallpox and other fevers by Wernitz's method. Both agree that with careful carrying out of the method a sufficient absorption takes place, and that, especially when the injections were begun early in the disease, the severity and duration of the cases were influenced very favourably. The general condition was always improved, the temperature fell, and polyuria usually occurred. The improvement stood in a direct relation to the amount of fluid injected.

Hofbauer has quite recently made a contribution to the scientific aspect of the method. He treated cases of puerperal sepsis at the beginning of his series with nucleins alone, in order to produce a leucocytosis, but later added saline infusion, subcutaneously or by the bowel, with a distinct improvement in his results. He considers that saline injections are of value, not only by diluting toxins, as Wernitz believes, but also by increasing the efficiency of the alexins of the body. It is known that the bactericidal power of the blood depends to a certain extent on the salt it contains, and in all diseases produced by toxins it is therefore of importance to assist the formation and efficiency of the alexins by providing salt to the blood.

Berend and Deutsch, on the other hand, declare, as the result of their experiments, that saline lavage of the blood cannot cause the excretion of bacterial toxins, because in infective processes the cells bind the toxins much too firmly. But in uræmia, for example, the affinity of the toxins for the cells is much less in degree, so that here the prospects of saline lavage of the body are more favourable. They agree, however, that in

all cases the blood pressure and the function of the heart are much improved by infusion.

The tediousness of Wernitz's method should not be allowed to blind us to its very real advantages, for, as compared with subcutaneous or intravenous infusion, it does not necessitate asepsis, it is quite painless, and unlimited quantities of fluid can be used, which is the only way of attaining a complete washing out of the organism. Further, the fact that the absorption is slow and gradual is of great importance, for it is left to the body itself to take as much fluid as its strength will allow, and the method can thus be used in the worst conditions of cardiac insufficiency, where subcutaneous or intravenous infusion can not be employed.

The method is certainly so well grounded theoretically, and the results up to the present have been so good, that it is well worthy of further trial.

PATHOLOGY

ACTINOMYCOSIS

By THEODORE SHENNAN, M.D., F.R.C.S.Ed.,
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THE Ray Fungus is becoming recognised as a factor of increasing importance in the causation of disease in man, and when one is meeting with cases of actinomycosis simulating the other granulomata or even tumour-growth, both in hospital and in private, in increasing numbers every year, it is interesting to find our knowledge of the disease crystallised in statistical papers like that of Poncet and Thévenot of Lyons ("De l'Actinomycose humaine en France et à l'Étranger," *Gaz. des Hopitaux*, 1903, No. 67).

These authors have gathered particulars, more or less complete, of 631 cases reported in medical literature or coming under their own observation during the past five years.

France contributed 86 cases, Germany 101, America 102, Britain 35, Austria 79, Greece 1, Holland 3, Italy 22, Roumania 2, Russia 189, Sweden 2, Switzerland 5, and Turkey 4 cases.

Taking the larger numbers in relation to the population of the respective countries, they find that the proportion is as great in France as in Germany or Russia, and suggest that the small numbers reported in some countries depend on the fact that many cases have not been diagnosed correctly, and that

actinomycosis is a more common disease than is generally supposed.

They consider that, as in the lower animals, so in man, the great source of infection is to be found in the vegetable kingdom, but that the incidence of the disease is not equal in man and in the lower domestic animals.

In Alsace Lorraine, the valleys of the Rhine and Moselle account for four times as many cases as the high plateaus where cattle are more numerous; but, on the contrary, in North Germany, which is rich in cattle, man is more affected than in South Germany, which is relatively poor in cattle. One has rather to take account of the poor social conditions under which the peasants of North Germany and of Russia live; not only working and living day and night with the domestic animals, but very often being more poorly fed and housed than they are. This would show that actinomycosis, like tuberculosis, is rather a disease of wretchedness, want and lack of hygiene, than due to infection from the lower animals.

Besides, if it were of animal origin the parts ordinarily in contact with animals or apt to be soiled with their saliva should usually be affected, whereas, if these reports are scrutinised from this point of view, it is found that the ray fungus specially affects certain situations.

For clearness the authors' facts may be placed in tabular form.

They analyse cases from France, Germany, America, Austria, Russia and Italy. They cannot give particulars of the whole of the 631 cases.

		Cervico-facial.	Pleuro-pulmonary.	Deep abdominal.	Abdom. and thorac. parietes.	Skin, muscles, limbs.	Nervous system.	Total.
France	C	53	1	3	4	2	...	
	I	3	...	...	...	...	...	
	D	4	1	2	...	...	...	
	U	7	2	4	...	...	...	
		67	4	9	4	2	...	86
Germany	C	27	...	4	3	3	...	
	I	...	...	...	...	...	...	
	D	3	13	4	3	...	...	
	U	26	...	2	1	...	...	
		56	13	10	7	3	...	89

C cured; I=improved; D=died; U=results unknown.

		Cervico-facial.	Pleuro-pulmonary.	Deep abdominal.	Abdom. and thorac. parietes.	Skin, muscles, limbs.	Nervous system.	Total.
Austria	C	56	...	2	2	3	...	
	I	...	...	...	...	...	...	
	D	...	3	1	1	...	1	
	U	5	...	...	...	...	...	
		61	3	3	3	3	1	74
Russia	C	2	2	1	3	...	...	
	I	...	...	...	...	...	...	
	D	1	1	1	...	1	1	
	U	83	38	38	3	...	...	
		86	41	40	6	1	1	175
America	C	15	1	1	2	...	...	
	I	...	...	...	...	...	...	
	D	...	2	3	...	...	1	
	U	...	...	3	...	...	...	
		15	3	7	2	...	1	28
Britain	C	9	...	3	1	...	...	
	I	...	...	...	...	...	...	
	D	1	4	6	...	1	...	
	U	1	...	1	...	...	...	
		11	4	10	1	1	...	27
Italy	C	2	...	...	...	1	...	
	I	...	...	...	...	...	...	
	D	...	...	...	...	...	...	
	U	3	1	...	...	...	...	
		5	1	...	...	1	...	7
		301	69	79	23	11	3	486

C=cured; I=improved; D=died; U=results unknown.

This table demonstrates that the gravity of the disease varies according to its seat.

The parts most commonly affected are the face and neck. In such cases they found a proportion of one death to sixteen cures. The prognosis being therefore relatively favourable. It is less so in actinomycosis of the parietes, the proportion being one death to four cures, while in disease

of the deep organs the deaths are almost as numerous as the cures.

M. Jean Duvan (*Thèse de Lyon*, 1902) apportions the mortality in actinomycosis as follows:—

10 per cent. in superficial cervico-facial cases.
30 per cent. in deep temporo-maxillary cases.
65 per cent. in abdominal cases, with intestinal origin.
85 per cent. in pleuro-pulmonary cases.
100 per cent. in hepatic cases.
100 per cent. in cerebro-spinal cases.

To judge from these reported cases, the disease is certainly more common in the country than in the town, and occurs more frequently in countries which produce large quantities of cereals and forage. The organism seems to find most favourable conditions of development in damp marshy regions and alluvial soils.

As regards *treatment*, the favourite one appears to be iodine internally in the form of iodide of potass, or occasionally iodipine by subcutaneous injection, with simultaneous local treatment by scraping, cauterisation, or painting with tr. iodi.

In conclusion, Poncet and Thévenot look upon actinomycosis as a cosmopolitan disease, and that absence of reported cases in a given country argues inability to diagnose it. For example, many suppurating or fistulous new growths are in reality actinomycotic, and many symptoms called specific turn out to be reactions caused by the growth of actinomyces in the tissues.

In the course of the discussion which followed the reading of this paper M. Nocard of Lyons referred to the facts that there exists, side by side with the classic type of actinomycosis, another affection due to the presence of a bacillus which produces lesions identical with those of actinomycosis, but which is distinguished by its failure to retain the stain by Gram's method. This disease, termed *actinobacillosis*, is a very serious one in the herds of the Argentine, occurring in 60 per cent. of the animals.

Nocard had encountered it several times in France. He was convinced that it also occurred in man, and that it might be confounded with true actinomycosis.

He did not state what the characters of this organism are, but it is well known that streptothrix forms other than the ray fungus can produce suppuration, and even pyæmia in man.

SURGERY

APPENDICITIS

By J. SCOTT RIDDELL,
Surgeon and Lecturer on Clinical Surgery, Aberdeen Royal Infirmary

The "Early Operation" in Appendicitis.—Though this dire disease has received much attention in recent times, alike from pathologist and clinician, it cannot yet be said that there is absolute finality as to its proper treatment.

To some extent this is due to the different clinical picture presented to the physician and the surgeon—the physician, on the one hand, having seen a number of cases of a mild type run an uneventful course to recovery, is apt to allow himself to temporise unduly with the worst infective cases in the daily hope of a similar resolution; while the surgeon, having had to operate on appendix cases in patients deeply infected and hopelessly ill within forty-eight hours of the onset of the disease, is apt to regard this "organe inutile et nuisible" as a structure to be removed at once in every case, in order to prevent the possibility of serious complications, which occur in a large proportion of cases.

A study of recent literature on the subject, supplemented by considerable clinical experience of the worst forms of the disease, would lead one to sympathise with the latter view, though one cannot perhaps absolutely accept the tenets of the School of "Early Operation."

By "early operation" we mean interference in every case of appendicitis within forty-eight hours of the onset, and if possible even earlier. This practice, which is associated with the American School of Surgery, good as it is theoretically, has much also to recommend it, if we judge it by the results obtained, as shown below. These advanced views are not, however, held in America alone, for many Continental surgeons share them. Among these we may mention Riedel, C. Beck, Oelsner, Rehn, Sprengel, Payr, Riese, Rose, von Beck and Bloss, while Kümmell, Rotter, Körte and Krönlein treat each case on its own merits. Payr, in a summary of results of many French and American surgeons, gives a mortality in their clinics of only 2 per cent. after early operation. Dieulafoy (*La Presse Médicale* of July 1902), in an article headed "Attendre pour opérer que l'Appendicite soit 'refroidie' c'est exposer le malade a la mort," strongly supports the operation "à chaud" as against that "à froid"; while Roux, on the other hand, has published seven hundred cases operated on "à froid" with two deaths, and reaches the conclusion that one should wait in every case.

The results of immediate operation may be gauged from the following records :—

Deaver (*New York Med. Journ.*, 1902) reports 416 cases operated on, of which 279 were acute, with a mortality of 15.3 per cent., and 137 chronic with a 7 per cent. mortality. He holds that no case should be allowed to go on to pus formation. La Place, of Philadelphia, advises early operation in all cases at all hazards; Ochnser analyses 620 cases, of which 21 showed general peritonitis; four of the latter were moribund when first seen and died without operation, and the remaining 17 were operated on after subsidence of the acute symptoms, and of these 55 per cent. died; 192 showed perforated or gangrenous appendices, with beginning circumscribed, or general peritonitis, with a 5 per cent. mortality under similar treatment; 407 were first seen during the interval, or within the first thirty-six hours of the attack, and were operated on immediately with a mortality of ¼ per cent.

Dr Leo Bornhaupt, "Zur Frühoperation der Appendicitis" (*Archiv für klin. Chirurg.*, Berlin, 1903), details 268 cases treated in the clinic of A. von Bergmann of Riga. Of these 268, 79 were women and 189 men. Ninety cases were operated on "in the interval," with one death; 102 cases operated on during the attack, with a 15 per cent. mortality, but in 10 of these death was to be expected from the condition of the patient. Thirty-two cases suffering from diffuse peritonitis all died, in spite of laparotomy and lavage of the abdomen.

These figures show that the mortality in early operation is not high. That there are special difficulties and dangers, however, in connection with immediate operation cannot be gainsaid, the first and greatest of which, and one that would give the surgeon pause, is the possibility of a mistaken diagnosis at a very early stage of the disease. There are on record many instances of acute abdominal disease simulating appendicitis. Brewer ("Annals of Surgery," 1901) reported that in eighteen months he operated on 11 cases wrongly for appendicitis, as follows :—2 renal calculi, 4 uterine appendages, 1 sarcoma of ileum, 1 cholecystitis, 1 acute suppurative pancreatitis, 2 general sepsis. Barker (*Brit. Med. Journ.*, February 28, 1903) gives the following list of intra-abdominal conditions simulating appendicitis:—

1. Ruptured pyosalpinx.
2. Ovarian cyst strangled by twisted pedicle.
3. Twist and strangulation of omentum.
4. Perforated gastric ulcer.
5. Retro-cæcal hernia.
6. Broken-down caseating glands.

7. Ileo-cæcal cancer, with abscess.
8. Hæmatoma of broad ligament.
9. Reduction of hernia *en masse.*
10. Intussusception.

The writer (*Lancet*, October 14, 1902) reported a case where an inflamed undescended testis in a middle-aged man closely resembled suppurative appendicitis. The case was sent to hospital, where the condition was detected.

Typhoid fever occasionally simulates appendicitis and the converse is also true. Box and Wallace (*Lancet*, June 6, 1903) have put on record a case of appendicitis with profuse intestinal hæmorrhage, which was operated upon under infiltration anæsthesia, though it presented features very similar to enteric fever. If the Widal reaction be positive and there be high fever, in the absence of rigidity and localised tenderness, typhoid may be suspected, and in these doubtful cases no operation should be performed until tenderness over M'Burney's point, followed by rigidity and resistance or tumour, can be demonstrated. Eve has recorded a number of cases of tuberculosis of the cæcum simulating appendicitis.

Some special dangers in the early operation have been pointed out. Stone (*Amer. Gynæc.*, 1903) mentions one case of operation on a woman after an attack of less than forty-eight hours, where the extremity of the appendix contained a large fæcal concretion along with a small amount of pus. Embolism of the lung resulted, followed by abscess, which ruptured on the eighth day with a fatal issue.

But against the dangers of immediate operation must be placed the following complications, which may result from "expectant" treatment. Ochnser states the following as complications of appendicitis avoidable by early operation:—Circumscribed and general peritonitis; infection of tubes and ovaries; infection of the gall-bladder; abscess of the liver; endocarditis; meningitis; various joint infections and metastatic abscesses in different parts of the body. To these may be added subphrenic abscess. Christian and Lehr (*Med. News*, Jan. 24, 1903) report 7 cases of this complication in 86 deaths due to acute appendicitis.

Subphrenic abscess may occur in any of the following ways, but is mainly due to the second or the third cause:—1. As a localised abscess part of general purulent peritonitis. 2. By extension of the disease-process from the appendix to the subphrenic region by an intraperitoneal route. 3. By extension by an extraperitoneal route, either by way of the lymphatics or by infiltration through the intraperitoneal tissues. 4. By the blood-current as a septic embolic process, or as a sequence of liver abscess.

The dangers of abscess formation, *per se*, have also to be taken into account, along with the possibility of rupture into the peritoneal cavity or into the bladder, and to a less extent, the formation and imperfect drainage of secondary cavities, and the inconvenience of ventral hernia.

Moreover, in cases of encapsulated abscess, it is extremely difficult and dangerous to separate, and in many cases impossible to find the appendix, which has to be left with possible chances of recurrence. Thus Bergmann (Riga) in 108 cases of encapsulated abscess failed to find the appendix in 49, and in 8 of these a second operation was required for recurrence.

Leucocytosis as an Aid to Prognosis and Treatment.—The presence of pus—the formation of secondary abscess—the relative virulence of an attack, and the necessity for speedy interference, may, within certain limits, be gauged from a blood-count. The results of a large number of observations in this respect are found in the following summaries. Wassermann (*Münich. med. Wochensch.*) states that in acute appendicitis a total leucocytosis of 25,000 and above is diagnostic of the presence of pus; the absence of this, however, does not show pus to be absent; in such cases low leucocyte counts point to (1) an encapsulated abscess, or (2) diminished resistance on the part of the patient. The leucocytosis is essentially polynuclear neutrophilic in character, and differs in no manner from that present in other inflammatory conditions. Purulent appendicitis shows a higher leucocytosis than most conditions, excepting general septicæmia and erysipelas.

Joy and Wright (*Med. News*, 1902) tabulate as follows:—

1. The leucocyte count is a valuable aid in the prognosis of appendicitis.
2. This is distinct from its diagnostic value.
3. A high stationary, or increasing count, indicates a morbid condition of increasing severity, which demands operation, no matter what the clinical symptoms may be.
4. A low stationary, or decreasing count, indicates that the severity of the case is abating, and that operation may be safely postponed.
5. No arbitrary set of prognostic values, to be assigned to various degrees of leucocytosis, can be constructed.

Longridge (*Lancet*, July 12, 1902) holds from an examination of a number of cases that in the leucocyte count, though we cannot absolutely say that pus is present, still we have by it a

means of stating whether the morbid process is of increasing virulence. Of even more importance than the quantitative is the qualitative count of leucocytes, since it is found that in almost every case the polymorphonuclear cells are increased out of proportion to the other elements. There may be no leucocytosis under the following conditions :—

1. A mild catarrhal attack.
2. Fulminating appendicitis, where the resistance of the patient is too feeble to react to the toxæmia.
3. Where the abscess is of some standing, and is thoroughly walled off.

Deaver believes that the use of the blood-count to make a diagnosis is unreliable.

The Temperature and Pulse in Appendicitis. — The temperature in early appendicitis is not often elevated. High temperatures more often occur when the infection is mixed or is due to streptococci. A temperature of 103° F. or more at the outset seems to mean that the toxins of mixed bacteria are sending the temperature up. Colon bacillus infection may show a normal or subnormal temperature from the outset, and such temperature may continue while the most disastrous effects are being produced by the bacteria in the tissues.

Barling (*Brit. Med. Journ.*, Jan. 10, 1903), in summing up the considerations which determine the necessity or otherwise for operation, very wisely advises that one should be guided always by the severity of those symptoms present, ignoring the absence of symptoms usually present, or their slight intensity if they are present. If a patient does not vomit, and if his temperature is approximately normal, while the pulse is 120 and the abdomen very rigid, lay stress on these last two signs and pay little heed to the others ; or, again, if the pulse is but moderately quick, and the temperature is in correspondence, yet the patient continues to vomit despite the prohibition of mouth feeding, too great emphasis can hardly be laid on the last symptom. If the temperature is falling and the pulse at the same time quickening, whatever the state of the other symptoms, the pulse will be the index to the condition inside the patient's abdomen.

It is well to remember that " l'accalmi traitresse " is often mistaken for an improvement, but a quick running pulse with a falling temperature and absence of pain is a danger signal which should on no account be neglected.

Bornhaupt's study of 268 cases (recorded in the *Archiv für klinische Chirurgie*, Berlin, 1903) leads to the following summary, which may be taken as a proper standpoint in the

present state of our knowledge, as avoiding rapid and rash action on the one side, and unwarranted expectancy on the other:—

1. There can be no absolute separation between the expectant and operative treatment of appendicitis.
2. One must not hesitate to operate as soon as purulent secretion is distinctly found to be present.
3. *There are a number of cases of perityphlitis where the earliest possible operation undertaken within the first twenty-four hours is the only proper treatment.*
4. Unfortunately we are not in a position precisely to draw the clinical picture of these cases, but in general these cases must be singled out which show at the onset any deviation from the normal type.
5. Abnormally high temperature, frequent pulse, very marked pain, bad appearance of the patient, board-like contraction of the abdominal wall, and in addition a palpable appendix, are the signs of a serious perityphlitis, and these signs demand operation at the earliest moment.
6. Because of the tamponade, early operation is not to be looked at from the same standpoint as "the interval operation," and therefore the latter, when circumstances are favourable, is to be carried out after a lapse of four to five weeks.
7. *Early operation is not necessary in each case, provided that every attack of appendicitis can be watched from the first day onwards by a surgeon.*

New Books and New Editions

Constipation. By G. SHERMAN BIGG, F.R.C.S.E. Pp. 67. London: Baillière, Tindall & Cox, 1902. Price 2s. 6d. net.

LIKE "Face and Figure" and other productions from the same pen, this is little more than an advertisement of the author. Though addressed to his medical colleagues, and at times enunciating good sense enough, though telling them only what they well know, it is, we hope unintentionally, really more adapted for the consumption of the general public.

The brochure is scarcely worth noticing, except that it gives the opportunity to point out the positive danger to the public of publishing a special list of domestic remedies, including prescriptions containing nux vomica, from which the unlearned reader is expected to choose the one suitable for his particular case.

A Text-book of Pharmacology and Therapeutics; or, The Action of Drugs in Health and Disease. By ARTHUR R. CUSHNY, M.A., M.D. Aberd. Third edition, revised and enlarged. Pp. 756. London: Rebman, Limited. 1903. Price 17s. 6d.

THAT another edition of Professor Cushny's book has been called for in eighteen months, constituting the third in less than four years, is sufficient evidence that the work fills a distinct want. We have dealt with the book as a whole in reviewing a previous edition, and hence it will only be necessary to note the changes which have been made.

The present edition is enlarged by twenty-two pages, made up chiefly of small additions to various sections to bring the work up to date. The paragraph on alcohol as a food has been in part rewritten, and the kind of evidence recently brought forward in its support is illustrated by a description and diagram of Neumann's first experiment. The matter dealing with the action of the supra-renal gland has also been transferred from the section on internal secretions, and has been enlarged and raised to the dignity of a section itself between the digitalis group and the nitrites. This, owing to the predominant influence of this gland on the blood-vessels, we regard as an improvement. A few additional illustrations, and a classification of drugs, according to their therapeutic uses, which completes the volume, have been added, and other changes of a minor character have been made. The book is brought well up to date, and we can strongly recommend it to all students and practitioners who want to acquire a sound knowledge of the actions of drugs.

Medical Microscopy. OERTEL. London: Rebman, Ltd.

AS the author states, this is a book expressly written for the beginner in Microscopy. Much space is therefore given to elementary details.

About 130 pages are devoted to Bacteriology, and the various methods of cultivation and examination are fully discussed. The section on Tumours gives a very readable resumé of the subject, and it is illustrated by many excellent micro-photographs. In the section on the Blood there is much useful practical information, but it is unfortunate that no illustrations of normal or abnormal blood cells are given.

On the whole, there is a large amount of useful material in the book, and the beginner will gain many practical points from its perusal.

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THE SCOTTISH
MEDICAL AND SURGICAL
JOURNAL

INSANITY AND ALCOHOLIC EXCESS

By JOHN CARSWELL, F.F.P.S.G.,
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RECENT discussions regarding alcohol in relation to mental disorders, and the allied question of medical doctrines of heredity, have shown that many of the text-book statements in that connection stand in need of revision. In the 1892 edition of his book Dr Clouston says: "From fifteen to twenty per cent. of the cases of mental disease may, taking the country through, be put down to alcohol as a cause, wholly or in part." He has more recently stated his opinion, based upon the character of the admissions to Morningside, that in recent years that proportion has increased. Now the object of this paper is not to dispute figures, such as those I have given from Dr Clouston, but to direct attention to some of the facts which those figures are supposed to indicate, and to ask whether we are quite so sure of our facts as the statistical statement of them would imply? "I have found statistics *re* drink-caused lunacy difficult to obtain," says Miss Frances Zanetti in the current number of the *British Journal of Inebriety*, which shows that there exists no accepted standard upon which observers may base their statistics.

The exciting causes of insanity are widely distributed and constantly operative. Mental, moral, and physiological strain, alcoholic and other excesses, physical diseases, etc., constantly threaten mental stability, and compared with the causes of zymotic disease, are much less under control. Yet, while everybody takes measles and whooping-cough, few relatively become insane. Everybody, of course, knows that the difference in the occurrence of insanity and the zymotic diseases is explained by the fact that while we live in an environment

apparently equally favourable to the production of insanity and the zymotic diseases, congenital or inherited conditions favourable to the occurrence of mental breakdown are almost essential to the occurrence of insanity. When we consider the relation of alcoholic excess to the production of insanity, that fact is constantly ignored. In a recent investigation into the alcohol-caused cases of insanity in two of our large city asylums, it was found that in at least sixty-six per cent. of the cases there existed a family history of drunkenness or insanity or both, and there were good grounds for believing that a bad heredity existed in a larger proportion. What has been found to be true of certain cases in two asylums is in accordance with general experience.

Excess in alcohol causes many cases of Delirium Tremens, but as most of those cases recover within short periods they cannot be said to contribute to the amount of permanent insanity, the growth of which, so far as that is held to be the same as the growth in the number of persons under official care, has caused the question now discussed to become one of great public importance. It is clear that a general statement to the effect that alcoholic excess has caused a certain amount of insanity covers the operation of far reaching influences, social, economic, moral and biological, which have not yet been adequately investigated. Despite the absence of such knowledge, suggestions have been made for the control of alcoholics with the view of preventing the occurrence of insanity which are based upon assumptions that are open to serious question. Two may be discussed :—

1. Habitual inebriety is held by many to be a *stage* in the causation of many cases of insanity, and therefore better control of habitual inebriates is suggested as an important measure for the reduction in the number of the insane.

2. Alcoholic excess in one or both parents is held to be the prime cause of a large number of cases of idiocy, imbecility, epilepsy, and adolescent insanities. If these positions are sound there exists a great field for effort in measures for the prevention of a considerable amount of insanity.

1. *Habitual Inebriety.*—I know no branch of medical investigation that has been so neglected, but, at the same time, everybody is ready with an opinion on the subject.

The inebriate has been much talked about, has recently

come within legal purview, and is only now being properly understood. I have had unusual opportunities of observing the inebriate from both the medical and practical administrative point of view, and in addition to having been chairman of the Glasgow Corporation Inebriate Reformatory, I have seen the London, Bristol, and other experiments, and have discussed the whole question with nearly all in this country whose experience entitles them to speak authoritatively. I shall express my views in the words of Mr Thomas Holmes, the famous London Police Court Missionary, whose vivid expression of his views, as given in the current number of the *British Journal of Inebriety*, cannot be said to exceed the truth. He says:—

"I have often the privilege of seeing what is termed the 'Black List.' I look at it with fear and wonderment. It is a revelation—an awe-inspiring picture gallery. I would like every student of humanity—and more especially every medical practitioner—to have a copy. They should study the portraits and read the descriptions." . . . "Another advance in education is made when the faces are studied. Are we getting back to primeval man? The hundreds of portraits—though only a few out of the thousands that might be produced—would lead one to think so. *No one can look at their portraits without feeling that there is something more behind it all than the mere drink habit.* No one can meet them face to face as I do, look into their eyes, and know their pitifully sad yet terrible lives, without affirming that the State proclaims its ignorance when it classifies these mentally and morally deranged creatures as 'habitual inebriates,' and its impotence when it offers 10s. 6d. per week for them to be cured of 'the love of drink.' I know that bolts and bars will not cure them, that two years, though spent in retirement and healthy surroundings, will not reform them; that human sympathy, coupled with earnest effort and prolonged care, will not make them as other women. To God and science their future belongs, for they cannot help themselves." He points out truly enough that a certain number (10 per cent., he puts it) of women who are not like those just described find their way into the class of habitual inebriates. But of 90 per cent. he declares "they are a class apart, so let them be kept apart." I endorse Mr Holmes' description as corresponding to my own experience in Glasgow. One thing stands out clear and well defined, viz., that habitual inebriety is

but the manifestation of "something more behind it all than the mere drink crave" of the nature of a reversion to the mental qualities of "primeval man."

Mr Holmes bases his opinion that these are inherently abnormal people upon two sound reasons, viz.: (1) their facial expression and the character of their conduct, and (2) their incorrigibility to all efforts for their restoration.

I think it is proved beyond any reasonable doubt that the inebriates who have come within the scope of the Inebriates Act are, to the extent of 90 per cent., persons in whom the prime cause of their inebriety is an inherited constitutional defect which will out in some gross forms of sensuality and idleness. But they rarely become certifiably insane, and contribute but few of their class to the asylum population. Mr Holmes quotes the cases of the notorious Jane Cakebread and Tottie Fay as persons who, in his opinion, were beyond question insane, and yet Jane Cakebread was only certified insane as a last resort when advancing years as well as drink had contributed to her mental breakdown.

I can match those cases with cases occurring in Glasgow in my own experience, one of whom, though certified insane, repeatedly has either been discharged "cured" within a short period or discharged as not certifiable. In view of facts like these it cannot be held that this form of inebriety adds appreciably to the asylum population. Nor can it be held that their children become insane in large numbers; they die in infancy and childhood, and those of them who have the good fortune to be adopted early in life by the parish council and boarded out under careful supervision do remarkably well. I think it is tolerably clear that inebriety, as it has been revealed by the operation of the Inebriates Acts, is a *type* of mental disorder as definite in its origin, course and general characteristics as any other form of disease, and like all other diseases it retains its essential features all through, and only occasionally manifests evidence of certifiable insanity as a passing and curable incident in its course. It is due to a congenital defect or tendency, which determines the type it assumes.

It is within the experience of all medical men how persistently an inebriate remains an inebriate, and rarely develops the characteristics of certifiable insanity. How often have we wished many inebriates would develop symptoms that would

justify certification as a lunatic, so that we might use the only means of removal and control the legislature puts at our disposal, but how seldom has it occurred. Better control of habitual inebriates is a crying necessity in the public interest, but we will not thereby reduce the asylum population appreciably. Habitual inebriety is not a *stage* in the causation of insanity, but is a *form* of mental disorder which retains its features as definitely as mania, or melancholia, or general paralysis, and rarely presents features characteristic of certifiable insanity.

2. Alcoholic excess in one or both parents is frequently said to be the prime cause of idiocy, imbecility, epilepsy, and adolescent insanity. Everybody is impressed, none more so than medical men, with the widespread evil effects of alcohol, and it seems reasonable to assume that alcoholic excess in parents must deteriorate the mental quality of offspring. Like the income-tax, alcohol is bad enough to justify almost anything being said about it, except that it is beneficent, but neither have been affected in the least by the prolonged use of strong language. Figures have been produced, especially by French writers, intended to support the view that a drinking nation rapidly becomes infertile and imbecile. On the other hand, Dr Ireland in his book on "The Mental Affections of Children," says: "My own observations incline me to believe that drunkenness, especially as a sole cause, is not so important a factor as writers like Dahl and Down would have us to believe. I know it to be very common in some places where idiocy is scarcely met with." . . . "In Scotland many of the lower classes get drunk at the New Year time—whole villages at once. We might then expect a larger proportion of idiot children to be born about the beginning of October, or nine months after the men come back from the herring fishing, when they generally have a carouse. This no one has noticed."

Observations like these cannot be affected by figures collected on no common basis. What has been said of alcoholic excess as a cause of idiocy applies equally to the other mental affections alleged to be largely the product of parental drunkenness. The increased number of the insane under care in Scotland cannot be citedas an evidence of alcohol-caused race degeneracy, because all the facts, when properly investigated, go to show that only an insignificant part of that increase has

occurred at ages when inherited degenerative mental disorders occur.

Comparing the census number of lunatics in Scotland in 1871 with those of the census of 1901, there is found to be an increase from 257.2 males and 217.3 females per 100,000 of population at ages 15 to 45, to 322.4 males and 267.6 females; but, at ages over 45, the increase has been from 456.6 males and 521.5 females per 100,000 to 802.2 males and 901.1 females.

While those figures show a great increase in the number of lunatics, they do not seem to justify the inference that the inherited degenerative insanities are increasing in prevalence.

The Glasgow Parish Council has 1040 children under its care, most of whom are boarded in the country under the care of selected guardians. The children are for the most part the offspring of drunken and degraded parents. The Parish Council claims that the children thus reared and educated by them, turn out, as regards conduct and success in life, as well as any other portion of the community. Here, then, is an experiment on a large scale of the question whether drunkenness on the part of parents is *per se* an extensive and serious cause of mental and physical degeneracy in offspring. Some of the official statements regarding the heredity of those children may be given, taken from the reports at random. "Parents drunken, mother in prison several times." "Mother dead, father a drunken character." "Mother dead, father often in prison." "Mother drunken." "Parents imprisoned for child neglect." "Mother worthless." "Father in Gartloch Asylum, mother excessive drinker." "Illegitimate, mother a poorhouse pest." Similarly it is recorded of nearly all, and yet the hopeful thing is that those children turn out satisfactorily, and very few of them become insane.

ON THE OCCURRENCE OF EPISTAXIS AT THE ONSET OF ACUTE RHEUMATISM

By HAMILTON GRAHAM LANGWILL, M.D., F.R.C.P.Ed.,
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EPISTAXIS has long been recognised as one of the symptoms commonly associated with the onset of several of the zymotic fevers, notably enteric. So little notice, however, has been taken apparently of its occurrence in connection with acute

rheumatism that the following notes of two well-marked instances[1] may prove of interest:—

CASE I. On 8th January 1901 I was called at 8 P.M. to J. M. (æt. 9½) for severe epistaxis. Owing to my being from home when the message arrived it was fully an hour before I saw her. She had lost a few drops in the afternoon, but at 7.45 P.M. severe bleeding from the *left* nostril had set in, a considerable amount of blood being lost before the hæmorrhage had ceased, immediately previous to my arrival.

Present Illness.—I had been called to see her on December 21, 1900, on account of stiffness of the neck; and regarding it as rheumatic (though she had no pyrexia associated with it), I gave her salicin four-hourly, to which the symptoms yielded in a couple of days. There was no epistaxis at this time, but she had then a well-marked presystolic mitral murmur. As she improved steadily, and was anxious to return to school, she was allowed to go on the 7th January 1901 (against her mother's judgment), but had to come home early the same day feeling feverish and shivery. Her mother gave her some of the salicin mixture which she had previously been taking, and she appeared to be improving, until the epistaxis set in on the 8th January.

Previous Health.—In January 1900 she had what was apparently her first onset of rheumatic symptoms—stiffness of the neck and pains in the thighs—being in bed then about a month. [The family were not then patients of mine.] Her mother states that there was no epistaxis at this time, nor had she ever had it until her present attack. After this she appears to have been quite well save for slight shortness of breath on exertion; but once (about October) I saw her for slight choreiform twitching of the eyelids and eyebrows, and at that time I discovered the existence of a distinct presystolic murmur. She has not had scarlet fever. Patient is always rather anæmic-looking, though of an active temperament.

Family History.—Her father died of smallpox when about 42. He was one of a family of eight, none of whom were known to be rheumatic. Her mother is alive and well, save for attacks of intermittent pyuria associated with pain in the right lumbar region. She has not had rheumatism, but one sister had rheumatic fever *twice* (at 18 and 24 years), two brothers had rheumatic fever *once* (at 23 and 35 years). On interrogat-

[1] See note at the end of the article.

ing the patient's aunt she states that she herself had no epistaxis with either of her attacks of acute rheumatism, nor had her brother (who lives with her) in his attack. She is not perfectly certain about her other brother's symptoms, but never heard of his having had epistaxis either with his rheumatic attack or at any other time. Patient is the youngest child (and only girl) in a family of seven. One brother (æt. 13) had rheumatism at the age of 5, being laid up a considerable time. He had no epistaxis then, nor is he now liable to it. The oldest brother (29) is markedly rheumatic, his history being fully reported below as Case II. Of the other members of the family, one died of bronchitis at 8 months, the others have not had epistaxis nor rheumatism, but one son had once slight choreiform twitchings.

Present Condition.—Patient was very nervous and apprehensive of the recurrence of the epistaxis, and as this had so recently ceased before my arrival I did not think it advisable to examine her fully at the first visit, but on the following morning I found her temperature to be 100.2°, pulse 130. She had marked pain and slight tenderness in the precordial region, and complains of a feeling of oppression and tightness in the chest. I could discover no rheumatic nodules. She was blistered over the precordium and given salicin four-hourly. By January 12th the precordial pain had subsided considerably but the pulse was still rapid (118), though her temperature was now normal. During the night epistaxis again set in freely (from the *right* nostril this time), but had ceased before I arrived at 3 A.M. The following day she had a very troublesome cough, worse always upon exertion, but no dyspnœa; her temperature also was again raised. The mitral murmur was very audible over practically the whole of the chest posteriorly. With rest in bed, and under continued administration of salicin in reduced doses, the pyrexia, rapid pulse, and precordial disturbance gradually subsided, though she had more than once slight relapses on attempting to rise too early.

CASE II. A. M., 29, eldest brother of Case I., has the following history. When 12 years old he had (to use his mother's phrase) "rheumatic fever on the back of scarlet fever," his hands being especially bad. He had had scarlet fever previously in early childhood, so that it was his *second* attack of scarlet fever which preceded the rheumatic attack. There

was no epistaxis in connection with this first attack of rheumatism, which lasted about three months. When 15 he was again taken ill with acute rheumatism, which was ushered in by severe epistaxis. He had not previously had bleeding from the nose, nor has he since had it, except as undernoted. His third rheumatic attack occurred two years later (when 17), and on this occasion again epistaxis (which was so severe that he required to have his nares plugged) *preceded* the acute rheumatism, so that his mother, from her previous experience of epistaxis in his case, dreaded the onset of rheumatism. For about ten years after this he kept quite well, free from epistaxis and rheumatism; but in January 1900 he was again attacked by acute rheumatism, especially affecting his hands and feet, this fourth attack being similarly ushered in by epistaxis. He returned to his work (as a clothier) before he had properly recovered, and "hirpled" on till 14th April 1900, when I was first called to him and found him with well-marked sub-acute rheumatism in both arms and legs. He had had no recurrence of the epistaxis, nor has he had any since. Under vigorous treatment with salicin he steadily improved and has remained well. His heart was said to be affected during his attack of acute rheumatism ten years ago, but there is no distinct evidence now of valvular affection.

Remarks.

(*a*) CASE I. There can, I think, be little question that the symptoms manifested by J. M.—the pyrexia, rapid cardiac action, precordial pain and tenderness, cough on exertion, etc., all point to the existence of a fresh endo- or peri-cardial attack, almost certainly of rheumatic origin. At what date the well-marked murmur of mitral stenosis first appeared in her case it is impossible to say definitely, though it probably dates from the rheumatic attack in January 1900; but from its presence I had little hesitation in regarding the stiffness of the neck (for which she was first brought to me) as being one of those rheumatic manifestations now well recognised as occurring in the rheumatism of childhood.

Epistaxis, of course, is a common enough occurrence with many children, but it is quite clear that J. M. had never suffered from it except on those two occasions in January 1901, so that its occurrence at that time can scarcely be put down as

accidental. It might be urged, on the other hand, that the epistaxis which occurred at the onset of the later attack of rheumatic endo- or peri-carditis is really to be ascribed more to the old-standing mitral stenosis than to the *fresh* manifestations of acute rheumatism affecting the heart. No doubt hæmorrhage in connection with pre-existing organic valvular disease of the heart in children occasionally occurs, though epistaxis is scarcely one of the forms it commonly assumes. But if the explanation of the epistaxis was thus to be found in the fact of the old-standing mitral lesion, would one not have expected it to have occurred, if not more frequently, at all events rather when she was making active muscular exertion than when confined to bed with a pyrexial attack? The occurrence of the epistaxis in her case with the onset of fresh rheumatic symptoms would scarcely seem to be fortuitous; and, as will be seen, it certainly would be impossible to ascribe the occurrence of epistaxis in Case II. to cardiac causes, for it existed in connection with the attacks of rheumatism which he had *prior* to his heart being affected at all.

(*b*) CASE II. The occurrence of epistaxis at the onset of *three separate attacks* of rheumatism in A. M. is very striking. Only in the first attack, which was apparently one of those cases of "Post-Scarlatinal Arthritis," was this symptom absent, and it may be open to doubt if this so-called "first" attack was really true rheumatism. In each of the others epistaxis not only ushered in the attack of acute rheumatism, but was in itself of such severity once as to call for extreme measures for its treatment; and his mother soon came to recognise the significance of its occurrence, as he was quite free from it except when an attack of rheumatism was impending. She is quite clear about the fact that in his boyhood he was *not* subject to bleeding from the nose; indeed had he been so its occurrence would not have had for him the grave significance she attached to it; while the long interval of ten years without any recurrence of the condition until another attack of rheumatism impended, only serves to emphasise the correctness of her observation.

(*c*) *General Remarks.*—I have not been able to discover any reference to the occurrence of epistaxis in connection with the onset of acute rheumatism in any of the works I have consulted. Senator in his elaborate article in "Ziemsen's Cyclopædia" makes no mention of it, nor is there any allusion

to it in Fagge's "Practice of Medicine," nor in Osler's work, nor Cheadle's article in Allbutt's "System." Is it possible that these instances of epistaxis are, as it were, links to the allied hæmorrhagic conditions associated with the rheumatic state described sometimes as *Purpura Rheumatica*, the mucous membranes here being the site of the bleeding instead of the cutaneous tissues? It is perhaps worthy of noting that, so far as I can discover, neither of my two patients have ever presented symptoms of the nature of purpura—nor of erythema nodosum. Whether or not the condition may have any *prognostic* significance it is impossible to say from the scantiness of the evidence here adduced; but it appeared to me that the notes of the above cases were sufficiently striking to warrant their publication. Moreover, in view of the increasing body of evidence which is being accumulated in favour of regarding rheumatism as being closely allied to the infective fevers, it is somewhat interesting to note this additional (though minor) point of similarity with such diseases.

[*Note.*—Since writing the above, my friend Dr Edwin Matthew has kindly given me a short note of another case in some respects not unlike that of J. M. (Case I.), his patient being a girl of ten who had her first attack of rheumatism a few months ago with marked arthritic symptoms. There was no epistaxis associated with this primary manifestation of rheumatic symptoms, but a few days later, coincident with the onset of endo- and peri-carditis, she had a sharp attack of epistaxis, a still severer one following a few days later. In her case also there were no rheumatic nodules present, nor purpuric symptoms, nor had she ever been liable to epistaxis previously. The case proved fatal, chorea having subsequently manifested itself in addition to the cardiac affections.]

THE USES OF PROTARGOL IN OPHTHALMIC PRACTICE[1]

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AFTER an extensive experience of the use of protargol in ophthalmic practice during the past two years, I have formed

[1] Read before the Forfarshire Medical Association on 3rd October 1903.

some definite opinions regarding its usefulness. Although protargol has been kept prominently before the notice of the profession by advertisements in the medical journals and by monographs from various quarters, yet it has not found favour to the extent its merits deserve. In text-books recently published, and in the new editions, it is only casually referred to, whereas the time-honoured astringent collyria still find their prominent place in conjunctival therapeutics. I may at once say that in my opinion protargol in weak solution is one of the most valuable therapeutic agents in the treatment of certain conjunctival affections we at present possess.

Objection, however, must be taken to two important statements made by its advocates, namely, that its instillation is painless, and that it does not produce argyrosis. Even in 1 per cent. solution it causes smarting, which lasts for a few minutes; but in 10 per cent. its instillation is followed by severe pain, almost as acute as that produced by a 2 per cent. solution of nitrate of silver, but of shorter duration. That it does not cause argyrosis is also not correct. Some of you may remember that at a former meeting of this Association I showed three cases of protargol argyrosis, and since then we have seen a few more cases. Protargol, however, possesses one or two very obvious advantages over nitrate of silver; namely, it is not precipitated by the sodium chloride of the tears, it does not readily coagulate the albumins of the tissues, and it has a much more penetrating effect.

The strength in which we employ it very largely is 1 per cent., and I venture to think that this weak strength has a good deal to do with its success in arresting micro-organismal activity in the conjunctival membrane. When used in stronger solution the irritation produced causes such copious lachrymation that the protargol gets washed away before it has had time to penetrate to the deeper layers. In ½ per cent. or 1 per cent. it is more easily borne, and consequently is allowed to remain longer in contact with the affected parts.

Method of Application.—The solution is dropped into the lower conjunctival cul-de-sac by means of an ordinary dropper —pipette with rubber teat—while the patient's head is thrown sufficiently back to allow the chin to be on a higher level than the forehead. The patient is then asked to wink several times while the head is held in this position, so that the solution may

find access to the whole of the conjunctival surface and folds. The last application for the day should be made a couple of hours at least before bedtime, otherwise the secretions may become roped and remain underneath the eyelids during night and act as a foreign body. When the conjunctival discharge is copious, a small piece of simple ointment or vaseline should be smeared along the margins of the eyelids at bedtime to prevent the eyelashes becoming gummed together during sleep. The solution should always be freshly prepared, and kept in non-actinic bottles, as it is very readily decomposed by light. Its use is contraindicated in all deep inflammations of the eye, such as episcleritis and iritis, for like all strong astringents it does harm in these cases, probably by causing engorgement of the deeper vessels.

I now purpose mentioning briefly the affections of the eye in which I have found the drug most serviceable.

Catarrhal or Simple Conjunctivitis.—In this common affection, whether in the acute or sub-acute stage, ½ per cent. or 1 per cent. (more commonly 1 per cent.) dropped freely into the eyes three times a day in the manner indicated gives excellent and speedy results, better, in fact, than any remedy I know of.

Chronic Conjunctivitis.—This form of conjunctivitis, especially when attended by a good deal of secretion, rapidly yields to a 1 per cent. solution. But when there is marked conjunctival hypertrophy and conjunctival ectropion, such as is often found in old people, better results can be got from the use of a 2 per cent. solution of nitrate of silver brushed over the affected part, after removing the tears with a mop of cotton wool.

Epiphora.—When due to hypersecretion of tears from conjunctival irritation, epiphora is often relieved by a 1 per cent. solution of protargol applied three times a day. If, on the other hand, the lining membrane of the lachrymal passages be inflamed, and their lumen thus narrowed, very gratifying results may be got from using a 1 per cent. solution in conjunction with 1 in 10,000 adrenalin chloride solution. Owing to the stenosis of the lachrymal passages the protargol has considerable difficulty in reaching the affected parts. But if a few drops of adrenalin chloride be instilled into the eye ten minutes or so beforehand, and the lachrymal sac compressed once or twice with the finger to produce a vacuum, the adrenalin gets drawn into the sac and renders the congested parts anæmic

A temporary dilatation results from this artificially produced anæmia, so that, if the protargol be then applied and the head thrown well back, the solution will be found to pass down the tear-duct into the nose. The passage of the fluid can further be assisted by pressing over the sac with the finger as before described, and by the patient winking and blowing his nose somewhat vigorously. A lachrymal syringe, such as that devised by Anel, or an extemporised syringe made from a hypodermic syringe, will be found useful in the surgeon's hands for applying the adrenalin and protargol, but the syringe need seldom be used except when there is well-marked stenosis.

Dacryocystitis.—In the intervals between probings, or in cases in which styles have been left in the tear-duct, 1 per cent. protargol, either alone or in conjunction with adrenalin, will be found useful in improving the condition of the sac. The solution should be instilled freely into the eye at the inner canthus after emptying the sac with the finger, and removing any discharge from the eye. The means recommended above to assist the fluid in getting down the tear-duct should be employed at the same time.

Follicular Conjunctivitis.—When this form of conjunctivitis is attended with an unusual amount of discharge, instillations of 1 per cent. solution will be found useful in arresting it. In this way, acting as an adjuvant, it assists greatly in rendering the usual therapeutic or surgical means more effectual.

Granular Conjunctivitis.—In this affection we get disappointing results from the use of protargol. Perchloride of mercury solution, sulphate of copper, and expression with Knapp's roller forceps have given us much better results.

Purulent Conjunctivitis of the New-born.—In the treatment of this virulent affection we have had excellent results from the use of 10 per cent. solution of protargol dropped freely into the eyes after the removal of all discharges by copious flushings with tepid normal saline solution from a special douche or teapot. This, if repeated every two hours, will very soon diminish the amount of discharge. The nurse, once she is shown the way by the surgeon, can apply the treatment herself without any difficulty. We have not used nitrate of silver for over eighteen months in the treatment of this form of purulent conjunctivitis, and we have not had a single case that did not recover rapidly and completely, if seen before ulceration of the

cornea set in. As regards prophylaxis, I have had no experience. But if I were an accoucheur I would unhesitatingly and invariably adopt some method of prophylaxis, such as the instillation of 10 per cent. solution of protargol, which, so far as one can judge, does not cause much smarting in the case of the infant as compared with the adult. In addition to the instillation, I would strongly advise that the skin of the eyelids and parts around the eyes be thoroughly brushed over with the solution as soon as the child is born. From what I know of protargol in the treatment of this disease once it is established, I should have no doubts regarding its prophylactic efficiency.

Purulent Conjunctivitis of the Adult or Gonorrhœal Conjunctivitis.—Of this disease, I am glad to say, we have had very little experience for some years. It is one of the rarest ophthalmic affections met with in this district, but should a case present itself, we would with confidence try a 10 per cent. solution of protargol in preference to nitrate of silver, on account of its greater penetrating and therefore greater germicidal effect.

Sloughing Ulcer of the Cornea.—In this form of ulceration, especially when complicated with dacryocystitis, we have used ¼ per cent. solution of protargol along with atropine with success, and have never seen any undue irritation follow its use.

Ulcerative Blebparitis.—The brushing of the affected parts with a 2 per cent. solution of nitrate of silver has given us much more satisfactory results than protargol. We have also used it in the form of ointment, but think it inferior to the yellow oxide.

Hordeolum.—In recurring hordeolum especially, we have found benefit from the use of instillations of 1 per cent. solution, due no doubt to its germicidal action, whereby the source of infection of the marginal glands becomes diminished or removed altogether.

Preparation of the Eye for Operation.—In preparing an eye for operation, such as cataract extraction, protargol in 1 per cent. solution has been found most useful. If, for example, the attesting dressing, which we apply on the night of admission, show any trace of discharge on the following morning, 1 per cent. protargol is instilled three times a day till no trace of discharge is seen on the dressing. For this purpose we have found

protargol less irritating and more efficacious than any other method of treatment we have adopted.

In short, we can confidently recommend protargol in the treatment of most conjunctival affections in which there is discharge, but especially in simple conjunctivitis and in purulent conjunctivitis of the new-born.

REMARKS ON SOME RECENT CASES OF ABDOMINAL SECTIONS

By J. M. MUNRO KERR, F.F.P.S., M.B., C.M. (Glasgow),

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MY abdominal sections for the first eight months of this year, which form the subject of this communication, number twenty-eight, and have been performed in the Maternity Hospital, Western Infirmary, and the Nursing Homes of the City. For the sake of convenience I have arranged the operations into three groups: (*a*) Operations on the Uterus; (*b*) Operations on the Ovaries; (*c*) Operations on the Tubes.

Operations on the Uterus.

Cæsarean Sections.—These were four in number. All were entirely satisfactory both as regards the mother and the children. The indication in each was extreme pelvic deformity. In two cases the conservative operation was performed and the mother sterilised by dividing the tubes and then tying the two cut ends. In the two other cases the uterus was removed and the stump treated retroperitoneally. The reason for removing the uterus in one case was because it absolutely refused to contract after the child had been extracted. This was due probably to the long duration of labour, for the woman, although advanced in labour, had been sent from Saltcoats in an ambulance waggon. I have never before seen such absolute atony of the uterus, either while assisting Prof. Murdoch Cameron or in my own cases.

In the other Cæsarean section where I removed the uterus, I did so because the patient and her husband insisted that measures should be taken to prevent the occurrence of another pregnancy. I had eighteen months before successfully performed Cæsarean section upon the patient, so that I could not but agree with her that, having submitted herself twice to the

operation and having two healthy children, she had done her duty to society. With a falling mortality in Cæsarean section, it is certainly a matter for discussion whether one should or should not sterilise the patient. This is not the place, however, to discuss such a subtle ethical question. I found the uterine and parietal peritoneum closely adherent, and I could have opened into the uterus without opening into the free abdominal cavity. The patient had complained of great dragging pain in the early months of the second pregnancy, but in the last twelve weeks she had had little or no discomfort. I may remark in passing that I hope to perform the operation for a second time on another patient, who is at present some seven months pregnant, and who is entirely free from any discomfort. When stitching the stump after removing the uterus I do so in layers with catgut, and I then bring the peritoneum carefully over with a continuous catgut suture.

Hysterectomy for Ruptured Uterus.—In some respects this case has given me the greatest satisfaction, for it is the first successful case of the kind we have had in the Glasgow Maternity Hospital. She was sent to me from a country place some seven miles from the city. Briefly told the history was as follows:—The presentation of the child was transverse and the midwife had allowed the labour to go on too long without sending for assistance. When the doctor arrived he performed version, extracted the child, and then found a long loop of bowel down in the vagina. He immediately brought the patient into the Maternity Hospital. The case was one peculiarly suitable for operation, for the collapse was slight and she was a strong, healthy individual. On opening the abdomen, which contained a small quantity of blood, one tear was found to extend vertically through the whole posterior wall of the lower uterine segment and cervix right down to the vagina, while the other extended transversely through the lower limits of the lower uterine segment. The uterus was removed, being cut off below the transverse tear. The small remaining part of the vertical tear and the stump were then carefully stitched, and the peritoneum brought over the latter with a continuous catgut suture. The patient's recovery was uninterrupted.

Hysterectomy for Myomata.—Of such cases there have been three. None of them presented any very great difficulty, and recovered as was to be expected without giving rise to the least trouble or anxiety. The bleeding in none had been very extreme, but pressure symptoms in all were well marked. In all I was able to drag the tumour out of the abdomen, ligature each broad ligament and amputate the mass through the cervix. As in the other hysterectomies I closed the stump in layers with catgut

and then brought the peritoneum over the stump with a continuous suture of the same material.

Sarcoma of Uterus and Pelvic Cellular Tissue.—This was one of my two fatal cases, and looking back upon it, I think I should have desisted from proceeding with the operation when I saw the tumour and opened into the capsule, for I suspected it was a sarcoma. I saw the patient in consultation with Dr Lithgow of Cleland, and agreed with him that the large mass behind the uterus which displaced the organ upwards and forwards was a myoma of the uterus. The patient was a stout woman aged 42, and had enjoyed the best of health until four weeks before admission to hospital. She had had three children, the youngest being aged five years. The symptoms began with pain and bearing down in the lower part of the abdomen, and a rigor with rise of temperature. These continued much the same until operation. On examination, the cervix was found high up behind the symphysis, dragged or pushed up by a large mass behind and to the left of the uterus. The diagnosis was a myoma of the uterus injured by pressure.

On opening into the abdomen the mass was found adherent to the posterior surface of the uterus and burrowing down into the cellular tissue behind and to the left of that organ. The capsule was opened and a very congested and friable mass scooped out, for it really came away in pieces. As there was a small tumour in the anterior uterine wall and the posterior surface of the organ was raw I removed the uterus. I then packed the large cavity with gauze. The patient never really rallied, she died about twelve hours after the operation. The report from the Pathological Department was that the tumour was a sarcoma. In all probability, I think, a myoma which had become sarcomatous.

Enucleation of Myomata.—Two of the cases were of this nature. In the one I enucleated four tumours varying in size from a man's closed fist to a walnut. The cavities were then closed with catgut in layers. The other case was a much more serious one. She was a young woman aged 26, who was seen and examined in consultation with Dr W. S. Somerville, who agreed with me that the tumour was a myoma. Her symptoms were entirely the result of pressure, for she had had no hæmorrhage, and the menstrual periods were quite regular.

On examination of the vagina the cervix could only be reached with extreme difficulty, and was felt high up behind and to the left of the symphysis, being displaced by a large mass which occupied the pelvis and extended well up above the umbilicus. On making the ordinary incision I came down

on cellular tissue. I consequently concluded that the tumour had in its growth displaced the anterior layer of the broad ligament upwards. I therefore opened into the peritoneal cavity above the umbilicus, and then found I had to deal with a large mass in the right broad ligament and burrowing away deep down into the true pelvis in front of the rectum. I shelled out the entire mass without much difficulty and tied some vessels which, along with some fibrous tissue, formed the remnant of the attachment to the uterus. I had now a huge capsule of tissue with the uterus and the tubes and ovary of the right side attached. I packed the lower part of this cavity with gauze and brought out an end of the gauze through the vagina (after the abdomen had been closed). I then removed a large portion of the upper part of the capsule and closed the remainder above the gauze with layers of catgut sutures. The anterior right side of the uterus I then tacked to the front part of the pelvis. Both tubes and ovaries and the entire uterus were left behind. The operation took some time, but the patient stood it well, and made an uninterrupted recovery. The gauze was removed through the vagina 36 hours after the operation. The tumour removed weighed 13 lbs. and was of a fibrocystic nature.

Speaking generally, in dealing with myomata of the uterus I try to leave behind as much as possible, and unless both ovaries are cystic I leave one at least of these organs.

Hysteropexies.— During the year I have performed this operation on four occasions. In three of the cases for prolapse, and in one after removing a dermoid cyst from the retro-peritoneal cellular tissue, because I was afraid that the organ might be displaced by the contraction of the cicatrical tissue of the cyst capsule. The method employed in all cases has been the same, except in the last, when I adopted Kelly's method. One suture is passed through the anterior wall at the top of the fundus, and two others passed through below that level. With the middle suture I miss the peritoneum, so that a small portion of the anterior wall becomes adherent to the cellular tissue of the muscle sheath. I also perform an anterior and posterior colporrhaphy and perineorrhaphy; and if an ovary is diseased, as it was in three cases, I remove or resect it as the case may be.

Operations on the Ovaries.

Amongst the fourteen ovariotomies performed, there have been some of very peculiar interest. The most outstanding case was a patient of Dr Wilson of Greenock, and the condition I diagnosed before operation as one of ex-

trauterine pregnancy. It turned out to be a most beautiful example of ovarian pregnancy, for villi were found on microscopic examination embedded in the ovarian stroma. As I intend to consider this case in detail, along with the whole subject of ovarian pregnancy, I will not say more about it here. Another interesting one was No. 15, a patient sent me by Dr Richards of Prestwick. The cyst was an ordinary multilocular ovarian cyst; but the adhesions were so extensive and so intimate with abdominal wall, bowels, stomach, etc., that fully two and a half hours were occupied in dissecting the tumour out. Her recovery was fortunately uninterrupted.

Case 17, a patient sent me by Dr Alexander of Galston, was also of considerable interest. She was a young girl, aged 23, small and delicate. Menstruation she stated was always scanty and lasted at most two but often only one day. For five years she had been practically confined to bed, being unable to go about on account of continuous pain, which at the "periods" was excessive. The uterus I found very small, the cavity measuring only two inches. Curetting, dilation of cervix, and all manner of drugs had failed to bring about any improvement. Being loath to have recourse to radical measures, I suggested some other treatment, which was carried out for six months, but with no benefit. I therefore removed both ovaries. One of them was cystic. She is now going about and has practically no pain. I had a case somewhat similar some years ago, where there was no menstruation at all, but evidently ovulation associated with great uterine colic. The uterus measured only about $1\frac{3}{4}$ inches. Dr Prentice, whose patient she was, has informed me that the result, I removed both ovaries, was entirely satisfactory.

Case 22, a double ovariotomy, was unfortunately fatal. The case was that of a poor woman who was admitted to the Western Infirmary with a high temperature, which had continued more or less for four months from the time of her last confinement. A large cystic tumour, about the size of an adult head, could be felt down in Douglas pouch. It was closely related to the uterus. The patient was extremely ill and I had little hope of saving her, but as she was daily becoming worse, and the end could not be far off, I operated, and after some difficulty removed an ovarian abscess without rupturing the sac. In breaking down the adhesion, however, there was a considerable quantity of dirty serous fluid. The abscess contained most stinking pus. The other ovary, being cystic, was removed. She rallied from the operation slowly, and the day following seemed wonderfully well, and was free of the constant sickness and vomiting previously present. She sud-

denly collapsed and died, however, some 36 hours after the operation. In this case I could have punctured the sac through the posterior fornix, and I thought of doing so. The unsatisfactory results with such a treatment, however, led me to adopt radical measures. Seeing how weak and far through the patient was, I might simply have punctured and douched out the cavity for ten days, and then removed the tumour. I think on the whole that would have been best, and might have saved the patient.

Case 21, which gave me a good deal of anxiety, was sent to me by Dr Gardner Neill. The chief symptom was pain in the lower part of the abdomen, and a distinct swelling, which could be made out in each iliac fossa. From the vagina these swellings were very tender and irregular. My suspicion, therefore, was that the case was one of double salpingitis. The tumours, however, turned out to be ruptured papillomatous cysts of the ovaries. The whole peritoneal cavity was studded over with papillomatous masses. The patient left the nursing home well (June), and with no evident re-accumulation of fluid.

A most interesting case (No. 20) was one sent to me by Dr Armstrong of Kirkintilloch. Briefly, the history was as follows. She was fairly robust and aged 27. She had had one child three years before. The last period was on December 27th. I saw her first on 28th April, when she told me that for six weeks she had been troubled with her urine; during four with frequency of micturition, but during the last two with retention. For two days Dr Armstrong drew off the urine with catheter. Diagnosing the condition as an incarcerated retroflexed gravid uterus, he sent her to me. I examined her under chloroform with him and agreed that such was the condition, and that the cause was probably a tumour preventing the uterus from rising up. On May 1st I opened the abdomen and removed with some difficulty a cystic tumour, about the size of a fœtal head, from the left broad ligament. I then pushed up the uterus from the vagina. She made an excellent recovery, and the pregnancy was undisturbed until 7½ months were reached. The retention, which disappeared after the operation, returned for a week or two before delivery. She was delivered of a small 7½ months' child without difficulty. The cicatrix was perfectly firm.

The last case amongst the ovariotomies which I will refer to was sent to me by Dr Laird of Milngavie, and was of very peculiar rarity. Some two years before, I had seen her on account of pain in the lower part of the abdomen. I could, however, detect nothing abnormal. The pain, however, continued. Four months before coming to me for the second time

she was delivered of a full-time healthy child (her first had been still-born) without difficulty. The puerperium was normal. She came to me on account of the abdominal pain, and to see if I could disabuse her of the idea that she was again pregnant, a condition that she dreaded greatly. I made a bimanual examination and was surprised to find that behind the uterus, apparently in Douglas pouch, there was an elastic swelling about the size of a turkey's egg. The uterus did not appear to be enlarged and was in normal position. I excluded at once the possibility of intrauterine pregnancy. I was, however, rather suspicious at first, I must admit, that the condition was one of extrauterine pregnancy, for the patient was afraid she was pregnant, had, although nursing and healthy, ceased to have any milk, and had had six weeks before seeing me a discharge of blood, which might have been a period. I took her into a nursing home for observation and examined her under chloroform with Dr Laird. After the examination and after talking over the case, the idea of extrauterine pregnancy became less tenable, for the uterus was not enlarged and there was no feeling of pulsation in the vault of the vagina. I therefore leant to the idea that the swelling must either be a cystic ovary or tube.

As the patient was in the nursing home it was thought advisable to operate, and I opened the abdomen a few days after the chloroform examination. Having got my finger into the abdomen I was greatly surprised when I found that the swelling I had felt was not inside the peritoneal cavity but behind the perineum in the cellular tissue in front of the rectum. The right ovary was cystic and was removed, the other was healthy and was left. The question of dealing with the cystic swelling, which I suspected must be a dermoid, had now to be considered. It seemed that the most sensible proceeding would be to enucleate it from the vagina, and this was easily carried out. A transverse incision was made in the vaginal vault behind the cervix over the tumour, which was pushed down from the abdominal cavity by my friend Dr McLellan, who was kindly assisting me. The cavity was then packed from the vagina. The abdomen was then closed and the uterus tacked to the lower part of the abdominal wound. The recovery has been uninterrupted (the operation was performed on July 28th). The tumour when opened was found to contain sebaceous matter and hair.

Operations on the Tubes.

All these cases, three in number, were of an inflammatory nature and one was tubercular. In that case two distinct swell-

ings could be made out behind and to each side of the uterus. The patient complained of great pain at the menstrual periods and had frequent attacks of pain independent of menstruation. She had previously been in the Western Infirmary and had been treated by rest, fomentations, etc., with little benefit, however. The removal of the large sausage-shaped swellings was a matter of considerable difficulty, because of their intimate adhesion with the bowels, etc. The pathological report confirmed the view taken at the operation that the condition was one of tubercular salpingitis.

The other salpingitis cases presented the usual difficulties.

Results, Complications, &c.

In all gynæcological cases I close the abdominal wound in layers. A continuous suture of catgut brings the peritoneum together, interrupted silk-worm gut sutures are passed through the sheaths and muscles but not through the peritoneum, in case any infective material may be dragged through when the stitches are removed. The muscle sheath is carefully stitched with interrupted catgut. In two cases there were stitch abscesses round the two lowermost stitches. After Cæsarean section I often take the two edges of the wound in two layers, as the wall is so thin. If I deem it necessary to drain I always do so through the vagina, for by that means much better drainage is obtained and the abdominal wound can be completely closed.

The two unfortunate deaths were due, the one to septicæmia and the other to shock. The septicæmia case was septic before the operation and was really in a hopeless condition. The other patient might have lived a month or two longer if I had desisted from continuing the operation, although she could never have had good health, as the tumour was a sarcoma and had already broken down.

In one case I was unfortunate enough to open the bowel. It was done so simply and stupidly in opening into the abdomen in a simple case of ovariotomy. The wound was carefully stitched and caused no untoward symptoms.

One of the cases developed a double parotitis which began about ten days after the operation and continued until she left the nursing home. It finally came to abscess and had to be opened by her doctor.

THE RÔLE OF THE ABDOMINAL MUSCLES IN RELATION TO HERNIA

By J. W. DOWDEN, F.R.C.S.,
Assistant-Surgeon to the Royal Infirmary

WHEN a surgeon in the performance of an operation makes an incision through the abdominal walls, he always considers the possibility of ventral hernia, or of recurrence, when the procedure has been carried out for the so-called "radical cure" of hernia.

Apart from the all-important state of asepsis, there are two factors which greatly conduce to the successful issue of an operation as far as hernia is concerned, and these are the presence of strong abdominal walls and the freedom of these walls from fat. Many writers note these points, but there is practically no advice given as to how an individual may develop such favourable conditions. The advantage gained by the presence of well-developed abdominal muscles is twofold—firstly, there are strong healthy structures to bring into apposition; and, secondly, any orifices that may exist in them are reduced in size by the contraction of these muscles. The latter fact can be appreciated by the insertion of the finger into the inguinal canal, when such a procedure is possible; the individual is then asked to "tuck in" his abdomen, when it will be found that the finger will be compressed by the muscular ring.

Every surgeon is familiar with cases of ventral hernia occurring after operation; not only so, but of recurrence after the "radical cure" for such a condition has been performed, and even after several operations have been carried out. In such cases there is invariably a state of lax abdominal walls generally associated with fat; in vulgar parlance a "corporation" exists.

We learn by this that the individual who has lax abdominal walls and suffers from any condition which requires ventral incision should, if time permits, proceed to strengthen and develop the abdominal muscles for a month or more before an operation is undertaken; or, if an emergency arise and an

operation has to be performed, exercises ought to be initiated early, a week to ten days after the event.

There is no good telling the ordinary patient to exercise his abdominal muscles three times a day—the first point is to impress the individual with the value of abdominal exercise, and, secondly, with the fact that much of the success will depend on the conscientious and intelligent manner the directions are carried out.

To begin with, the abdomen must be "pulled in" as flat as possible and this tonic contraction maintained as long as possible. Naturally there is a tendency at first to forget about this, but the memory can always be assisted by such devices as changing the position of common articles in frequent use—for example, the watch may be carried in another pocket, keys in an unaccustomed place—the effect of this being to recall the need of "pulling in" the abdomen. In the course of some days this contraction of the abdominal muscles becomes a frequent condition, and in time it will be found practically always present, a good habit is established.

In addition to this mental development, which is the best and the only suitable form for immediate post-operative treatment, other exercises may be employed; for example, stooping and bending with stiff knees, lying on the floor with the feet fixed against something solid and then slowly raising the body to the sitting posture and slowly resuming the horizontal. There are many others that can be thought of.

When the lax abdomen is associated with obesity the diet ought to be regulated, and so regulated that the transition to a strict regimen, if that be needed, is carried out only by degrees, as the too sudden departure from custom, both in exercise and diet, is apt to be fraught with disagreeable and uncalled for symptoms.

Anyone who tries this method of treatment, more especially the mental exercise of pulling the abdomen in, will be surprised at the change which can be brought about in a "corporation," provided these exercises are conscientiously performed.

Quite apart from a matter of operation, reduction of the abdominal girth may be desired or required, the following case illustrates the value. A man aged 60 suffered from stricture of the urethra, and circumstances rendered it important

that he should at times pass an instrument; the size of his abdomen was such, however, that it was impossible for him to even see his meatus.

He was taught how to exercise his abdominal walls, with the result that in a fortnight he was able to carry out the needful cleansing and manipulation, and at the same time he expressed his surprise at such a simple method of reduction, as he imagined a severe course of "sweating" and restriction of diet alone could help, which, of course, they never would. He has one regret—the "hang" of his trousers is spoilt, as the reefing process now needed round the waist produces folds in various directions.

Clinical Record

A CASE OF SUB-PERITONEAL RUPTURE OF THE BLADDER PRESENTING ANOMALOUS SYMPTOMS

By W. STEWART, M.D., F.R.C.S.,
Surgeon to Leith Hospital

A LABOURER, aged 40, who had been drinking heavily for several days, and had had a special "burst" on Thursday, 1st Oct., was seized on the evening of *Friday, the 2nd Oct.*, while walking along the street, with a sudden severe pain in the lower part of the abdomen. The pain was so severe that he fell, and had to be assisted home. The severity of the pain caused him to fall again when he got into the house. He went to bed, and shortly afterwards vomiting commenced. He remained in this state of pain, weakness and vomiting, until Tuesday, the 6th Oct., when for the first time he sought medical aid.

He was seen by the Out-Door House-Surgeon of the Leith Hospital, who found him suffering from pain in the lower part of the abdomen, with the greatest intensity over M'Burney's point. He also complained of pain over the pit of the stomach. He had been unable to retain any food since Friday, and had had no movement of the bowels, but had passed flatus. He said that he had passed water as usual, and had not previously had any trouble connected with micturition.

On admission, Tuesday, 6th Oct.—T. 96.8, P. 78, regular but feeble, R. 24. Was in evident pain, referred to the lower

part of the abdomen. He had a purpuric rash over the chest, abdomen, arms and legs; no spongy gums. Had not a blanched appearance. The lower part of the abdomen, which showed no discoloration nor œdema, was distended and tender: this distension was evidently due to a large swelling extending from the pubes to the umbilicus, and from the right iliac fossa to beyond the left of the middle line, which felt firm, was dull on percussion, very tender, and had fairly well-marked margins. Rectal examination showed that this swelling did not descend into the pelvis, that it formed one mass, and that it was not attached to, nor implicating the rectum; in fact it very much resembled a six months pregnant uterus displaced to the right side. He vomited whenever he was given any fluid, had hiccough, and complained of thirst. Tongue dry. Passed a considerable quantity of urine without difficulty. A No. 10 soft rubber catheter was passed with ease and about 9 oz. of clear urine, containing however, a few dark brown granules as of old blood-clot, were drawn off. The urine was free from albumen or blood. Leucocytes, 16,000. An enema was given, which had a very good result. Patient felt easier and had a fairly good night.

Wednesday, 7th Oct.—T. 98, P. 84, R. 24. Still vomiting, with occasional hiccough. Less pain. Tongue still very dry, and he complains much of thirst. The swelling is not now so sharply defined, and is less tense and tender. Has had another enema, with a good result.

Operation.—The abdomen was opened by an incision midway between the umbilicus and the anterior superior spine, parallel with Poupart. On incising the peritoneum, between two and three quarts of clear yellow inodorous fluid gushed out. No smell of urine. The incision struck the extreme edge of a darkish smooth swelling of about an inch in thickness, situated in the abdominal wall, and extending inwards to the middle line, and upwards to near the umbilicus, gradually diminishing in thickness in these directions. A coil of congested small intestine was slightly adherent to it by means of recent lymph. On being incised this swelling showed only blood-stained tissue and extraperitoneal fat. No tear nor opening was discovered leading from the peritoneal cavity into it.

The appendix was found to be healthy, and no collapsed large nor small intestine was found, though a considerable length of the ileum was pulled out and examined.

A No. 10 silver catheter was passed *per urethram* into the bladder, which drew off a small quantity of clear urine containing granules as before. No tear of the bladder could be discovered on passing the hand into the pouch of Douglas and

examining while the catheter was in the bladder, nor could the catheter be passed into the swelling. Nothing further abnormal was discovered, and the abdomen having been thoroughly washed out with sterilised water, the wound was sutured, leaving a glass drainage tube in the pouch of Douglas.

In the evening his T. was 97, P. 108, R. 28. No vomiting; taking small quantities of milk and lime water; feels easier.

Thursday, 8th Oct.—T. 97.2, P. 96, feeble, R. 28. Dressings soaked with clear, slightly-stained fluid. Abdomen moves well on respiration, and is not distended. Tongue still dry, and patient very thirsty. Has passed normal urine and also flatus. Evening T. 98.4, P. 100, feeble, R. 32.

Friday, 9th Oct.—T. 97.8, P. 98, still feeble, R. 28. Dressings wet, tube removed, and iodoform gauze drain substituted. No pain nor tenderness. No distension of abdomen, which moves well on respiration. Still passing normal urine without the catheter. Taking and retaining milk and lime water. Feels well but weak. Put on hypodermics of strychnine and to have Sp. Ammon. Aromat. every two hours.

Saturday, 10th Oct.—T. 96, P. 80, very weak, R. 30. Has been restless through the night, but took milk well. Pulse became weaker at 7 A.M. Had an enema, which acted well. Has no pain, nor distension of abdomen. He died suddenly at 11 A.M.

Post-mortem by Dr Ritchie.

Purpuric spots chiefly on limbs. No bruises over abdomen nor elsewhere. *Heart.*—Muscle of good colour; none of the valves thickened; a small warty vegetation on one aortic cusp. *Pleuræ.*—Both firmly adherent all over. *Lungs.*—Congested, with considerable bronchitis. *Spleen.*—Normal. *Kidneys.*—Capsules strip, surfaces smooth; both considerably congested. *Pancreas.*—Normal. *Liver.*—Not cirrhotic, fatty, nor unduly pale. *Gall bladder and appendix.*—Healthy.

In right iliac region there are recent adhesions between intestinal coils and parietal peritoneum anteriorly. No fluid in peritoneal sac.

In front of the peritoneum, and behind the pubes, to the right of the middle line, is an infiltration of the tissues with a greenish brown non-fœtid fluid; but there is no distinct cavity.

On incising the bladder, which is small, and contains about two drachms of darkish fluid mixed with small dark blood-clots, one finds a somewhat circular aperture with no thickening of margins, about the size of a small pea, situated on the anterior wall to the right side, and communicating directly with the retropubic infiltration mentioned above.

Remarks.

This case presents some features of interest from the point of view of diagnosis.

The first impression was a distended bladder, but this was negatived by the passage of the catheter and the non-diminution in the size of the swelling. A hæmorrhage of this size, possibly due to his falling when drunk in a presumed purpuric condition, was also negatived by there being no blanching of the patient. A neoplasm of this size was hardly likely in view of the history, but was possible; while an appendicitis with matting of the intestines and a formation of pus sufficient to account for a swelling of this size was improbable without a temperature, and with a leucocytosis of the above amount. A rupture of a gastric ulcer, or of a distended gall-bladder, would with such an amount of effusion have shown itself in the pouch of Douglas as well. A ruptured bladder seemed to be put out of the question by the normal character of the micturition, by the withdrawal of a fair amount of urine through the catheter, and by the absence of any bruising of the skin, and the freedom from stricture.

The swelling was undoubtedly due to the extravasated urine, which in the course of the night of the 6th had either through a small crack, or by osmosis found its way into the peritoneal cavity; most probably by the latter process, as suggested by the loss of urinary odour, which would not likely have been the case had it escaped through an opening of the parietal peritoneum.

This is another warning against delay, for had the swelling been incised immediately on admission the urine would have been drained off, before it had percolated into the peritoneal cavity. His recent bout of drinking must, however, be taken into account as having greatly diminished his chances.

Meetings of Societies

Glasgow Medico-Chirurgical Society

THE first meeting of the session 1903-1904 was held on 2nd October, when a large attendance was registered. The new President, Dr David Newman, on taking up office, made a few brief introductory remarks, desiring, he said, to postpone his formal presidential address for a few months. He could not, however, allow this opportunity to pass, of tendering his sincerest thanks to the members of the Society for conferring on him their highest honour. It would be his duty to promote the interests of the Society in every way that he could.

1. Mr Henry Rutherford then exhibited a case of coxa vara bilateralis, apparently acquired in adult life. The etiology of the disease was, he said, still obscure. It had been suggested that it arose from early rickets, from injury, from late rickets, and from the habitual carrying of heavy weights and straining. The neck of the femur became bent antero-posteriorly, with the convexity forward, the head sank, and the trochanter rose. The pelvis was broadened, adduction of the thighs was limited, the progression was cross-legged, and as the pelvis was badly hung on the femora, a considerable lordosis developed. Reference was made to the work of Keetley, Clement Lucas, Tubby, and others. The patient in this case was a man aged 42, who complained of pain in the loins and weakness of the legs. There was lordosis, and the thighs could not be adducted, while the trochanter was as high as the anterior superior iliac spine. He attributed the condition to a severe muscular strain which he had eight years before. Skiagrams of the case were exhibited as well as the patient.

Dr Geo. Edington said he was much interested in seeing this case—the first he had seen of bilateral coxa vara in an adult. He had seen three unilateral cases—two in children, one in a young adult. An important point in diagnosing was that when the patient lay on the back, and the thigh was flexed on the trunk, the leg crossed over the other one.

Dr Rutherford briefly replied. He had as card specimens: (*a*) lower jaw and tongue extensively removed for epithelioma; and (*b*) goitre, cystic, with evidences of inflammatory action.

2. Dr T. K. Monro showed a girl of 16, a wire-winder by profession, who was suddenly seized with dizziness, and then with trembling of the right arm, and then of the right leg. The whole thing developed in a few seconds, and the tremor has remained in the right arm ever since. It is coarse and rhythmical, affecting mainly the pronators and supinators, and ceases during sleep. The arm shows some weakness as well, and the patient has a mitral systolic bruit. Dr Monro said his opinion was that it was due to embolism of some small branch of the posterior cerebral artery.

Dr Lindsay Steven discussed the case and considered it quite possible that it was of neurotic origin or perhaps of the nature of a trade tremor.

Dr Workman said he thought it might be of advantage if the patient were thrown into the hypnotic sleep and suggestion used to stop the movement.

Dr Monro also showed a man of 37 suffering from scleroderma of the lower limbs and dorsum of the hands. The illness began nine months before with pain and stiffness in the legs. The feet

are now painful and the skin is tight, unyielding and hide-bound.

3. The President exhibited: (*a*) a cystic tumour of the right ovary which had been strangulated by twisting of the pedicle; (*b*) a case of floating kidney, in which nephrorraphy was performed. The kidney was within the peritoneal cavity, and had a mesonephron.

4. Dr R. J. Lochrane showed microscopic preparations of the ova of bilharzia hæmatobia.

THE second meeting of the session was held on Oct. 16—the President, Dr Newman, in the chair.

Dr Lindsay Steven described a case of generalised enlargement of lymphatic glands—probably Hodgkin's disease—in a man. The striking feature had been its rapid course, and though he had intended showing the patient, the strides made by the disease had prevented the latter from coming.

Dr Jas. Scott showed a series of six cases of hammer-finger, all occurring in one family. The ages varied and both sexes were represented; the condition was congenital. The demonstration was further illustrated by photographs and skiagrams.

Glasgow Pathological and Clinical Society

THE first ordinary meeting for the session 1903-1904 was held on Oct. 12—the President, Mr Maylard, occupying the chair. There was a good attendance.

1. Dr J. K. Kelly showed various gynæcological specimens, viz.: (*a*) a cyst of the kidney which had clinically presented the features of a parovarian cyst; and (*b*) several specimens of uterine myomata, removed by operation. These were of large size, and the indications for removal had been mainly pain and pressure.

2. Dr A. N. M'Gregor showed a girl of 15, who had been admitted to the Royal Infirmary in August last, with a large diffuse venous aneurism of the thigh. The chief complaints were pain and swelling. The mother of the patient attributed its appearance to a "maternal impression." It was too large to excise, so Dr M'Gregor contented himself with ligaturing six of the chief veins connected with the swelling. The improvement has been marked, for the swelling has diminished to a quarter of its former size, the softness is much less, there is little pain now, and the patient can walk freely. A curious feature of the case is that the scars have grown since the operation two months ago.

3. Dr M'Gregor Robertson showed a new form of hæmoglobinometer, by Dr Dare of Philadelphia. The blood is held in a little capillary chamber formed of two pieces of rectangular glass clamped together; when the edge of this is presented to a drop of blood, the latter readily flows in. This chamber is placed in a slot, provided with a circular aperture, and is then illuminated by a candle lit behind it. The now illuminated reddish disc is viewed through a small telescope, and side by side with it is a similarly sized aperture, between which and the candle is interpolated a wedge-shaped piece of red-tinted glass. This is moved by a milled-head screw, till its tint (standard) appears the same as that of the blood. The percentage is then read off at once on the edge of the instrument. The advantages claimed for the apparatus are: (1) rapidity of working; (2) absence of need to dilute or to measure the blood. The cost was stated to be twenty dollars (£4).

4. Dr Barclay Ness described the clinical history of, and showed post-mortem specimens from, a case which presented some puzzling features during life. The patient had been a man of 41, who was admitted into the Western Infirmary in September last, complaining of exhaustion, loss of flesh and breathlessness of three weeks' duration. Two months previously (July) he had had severe gastric symptoms (vomiting and pain). Some years before he had had an acute "wet" pleurisy. He was wasted, sallow, livid and feverish (101°-102° F.) and the pulse was quick and weak. He had little cough or spit, no hæmoptysis, and no tubercle bacilli could be found in the scanty expectoration. The whole of the lungs was in a catarrhal condition, and there was some dulness at the left apex. The heart was healthy; there were no abdominal symptoms save blood occasionally in the motions, and the spleen was a little enlarged. The Widal reaction was tried twice, and was positive each time, on the latter occasion with a dilution of 1-50 in three-quarters of an hour and with one of 1-100 in one hour. In favour of typhoid were the temperature, melæna, splenic enlargement and Widal reaction; against it were the absence of rash, of diarrhœa, of the diazo-reaction and of meteorismus. The diagnosis leaned towards pulmonary tuberculosis. The temperature now began to oscillate, and on September 25, the patient had a sharp gastric bleeding, and death occurred on the following day.

The post-mortem showed acute miliary tuberculosis involving the whole of both lungs and all the solid abdominal organs. There was an enlarged caseous mesenteric gland, as big as a Victoria plum, which was swarming with tubercle bacilli, and the stomach was the seat of a large chronic ulcer, of which the pancreas formed the floor and which was the source of the gastric

and intestinal bleeding. The specimens were demonstrated by Dr A. K. Ferguson, who had performed the autopsy.

5. Dr John Patrick (introduced by Dr Knox) showed a specimen of a large congenital umbilical hernia. The infant was sent in for operation 30 hours after delivery, the sac of the hernia having ruptured. The bowel was returned to the abdomen, and the sac, which was 3½ inches long, removed. The cord had been ligatured 2 inches beyond this. The child unfortunately died from shock.

The President commented on the rarity of a case of this kind and thanked Dr Patrick for showing the specimen.

Glasgow Southern Medical Society

THE first meeting of the new session was held on October 1, when there was a large attendance of members. The chief business of the evening was the election of office-bearers for the ensuing year and the following elections took place:—Sir J. Halliday Croom, M.D., F.R.C.P.E., Honorary President; Dr Thos. Richmond, President; Dr Fraser Orr and Mr A. Maylard, Vice-Presidents; Dr Thos. Forrest, Treasurer; Dr Andrew Wauchope, Secretary. Dr Chas. E. Robertson was reappointed representative Governor on the Board of the Victoria Infirmary. The Treasurer submitted his Annual Statement and showed a balance on the right side. Dr C. E. Robertson gave an account of the chief work done by the Board of Governors of the Victoria Infirmary during the past year. He mentioned among other things, the granting of an honorarium of £10 to each member of the Dispensary staff; the purchase of new ground at the Infirmary, from the Corporation of Glasgow, at a cost of £5000; and the arrangements made so far for the new wing about to be erected.

Glasgow Northern Medical Society

THIS Society held the first meeting of the session 1903-4 on the evening of Tuesday, Oct. 13th, when the business reports of last session were read, after which the retiring President, Dr. J. Steel Muir, addressed the meeting.

The following gentlemen were elected office-bearers for the ensuing session:—*President*, Dr A. Thomson Campbell; *Vice-Presidents*—Dr Charles F. Spinks, Dr James Galbraith Connal; *Treasurer*, Dr James Todd; *Secretary*, Dr John G. Gray; *Reporting Secretary*, Dr John A. C. Macewan; *Sealkeeper*, Dr John C. Edmiston; *Auditors*—Dr Thomas Dow Waddell, Dr

John Ritchie; *Ordinary Members of Council*—Dr James W. Allan, Dr J. A. Wilson, Dr James B. Miller, Dr John Baird, Dr Malcolm Black, Dr Robt. G. Inglis, Dr William Campbell, Dr Malcolm Campbell, Dr James Rutherford, Dr Campbell S. Marshall, Dr J. Steel Muir, Dr John Donald.

Forfarshire Medical Association

THIS Society met in the University College, Dundee, on Friday, October 2nd, 1903—Professor Stalker in the chair.

Dr Dickson, Carnoustie, showed a case (a man aged 54) of melanotic sarcoma of the left eyeball with secondary subcutaneous nodules on the chest wall. The specimen, which had been removed by enucleation last July, was also shown.

Dr M'Gillivray showed an unusual case of fistula of the lachrymal gland in a child of five. This he had closed with the electro-cautery.

Dr Rogers showed a Röntgen Ray photo of a simple fracture of the tibia with an old bony union between the tibia and fibula in their upper thirds. This had obscured the diagnosis until the photo showed the cause.

Mr Greig showed stereoscopic photos of a case of epithelial carcinoma of the penis in a man of 30 years of age where extensive disease of the penis had been followed by unusual destruction of the tissues in both groins from the glandular enlargement. Mr Greig also showed four articulated pelves illustrating varieties of fractures of that part. He also read notes of a case of a gun-shot wound of the chest in which a Mauser rifle bullet had traversed the right chest and its exit had fractured the tenth rib. As a sequel to this the tenth intercostal nerve had been caught and compressed by the cicatrix. This was followed by the onset of an unusual spasm of the respiratory and of the extra-respiratory muscles. Excision of the fractured rib and resection of the nerve had been followed by immediate and permanent relief from the symptoms. The macerated specimen of the excised rib was shown and it was pointed out that though the rib had been comminuted, the comminution had been confined to the immediate neighbourhood of the injury, and that though the wound had suppurated in the first instance, no osseous tissue had been lost by necrosis.

Dr M'Gillivray read a paper on the use of protargol in ophthalmic practice. (See p. 396.)

The Chairman spoke as to his having had personal experience of a ten per cent. solution, and said he had no doubt about its painfulness, but that the conjunctivitis had recovered quicker than after any previous remedy.

Mr Greig thought it was more possible to use strong solutions of protargol in the eye, which flushed itself; but in other mucous membranes, such as in the urethra, owing to the pain produced it was not possible to use any but weak solutions to start with. He considered protargol used in this manner was the most valuable remedy for the treatment of specific urethritis.

Dr Orr, Tayport, said he had used fifteen per cent. and twenty per cent. solutions in two patients respectively, and caused severe pains. Now he was accustomed to use from two per cent. to five per cent. solutions, and had heard no complaints of its painfulness.

Dr M'Gillivray replied.

Dr Halley read short notes of ten cases of strangulated herniæ. He mentioned that though the number of the cases was small, they were representative of sufficient varieties to be of interest. The oldest was 80 years of age, and the youngest 5 months.

In two cases a femoral hernia had been present for years on both sides, and the right became strangulated in both cases. Five of the cases (male) were inguinal, three on the left side and two on the right. In four of the cases the hernia was femoral. One was a male, and three were females.

In one male the hernia had from infancy been treated by a truss, which had been put aside four years previously, and the hernia had reappeared and immediately become strangulated.

In another case a retained testis was found with bowel in the hernial sac.

In only one case was the bowel gangrenous. This was resected, and an end to end anastomosis performed. The patient, however, succumbed next day. One other case died seven days after the operation. In this the bowel was healthy, and returned, but the patient's condition was not good.

The symptoms of strangulation commenced in this last mentioned case seven days previous to operation. In the others the time of onset was from eight hours to five days before operation, the usual cause being delay in calling in a doctor.

Fifeshire Medical Association

THE following were elected office-bearers for the ensuing year:—*President*, Prof. J. Musgrove, St Andrews; *Vice-President*, Dr A. M'Gregor, Dunfermline; *Council*, Drs Constable, Paton, and Orr, St Andrews; *Hon. Treasurer*, Dr MacDonald, Cupar; *Hon. Secretary*, Dr Douglas, Cupar.

Editorial Notes and News

The History of Medicine.

ONE cannot read the interesting address which Professor Dejerine recently delivered upon assuming the position of Professor of the History of Medicine in the University of Paris, without feeling that it is a reproach to Scotland that none of our Scottish Universities has a chair for this subject. Professor Dejerine devoted the greater part of his time to a rapid survey of the entire field of medical history, from the earliest times to the present day. In the course of his lecture he described and illustrated the different ways in which the history of medicine may be studied. One may, for example, study the history of medical theories and doctrines from Hippocrates to Pasteur, a method of great philosophical interest. Or one may study the biographies of the Fathers of Medicine, so as to understand the influence they exerted upon their own time and upon the development of knowledge. Again, we may devote our attention to particular periods, such as antiquity, the Middle Ages, the Renaissance, the nineteenth century, or to the development of methods of observation or experimentation and the part they have played in the evolution of medical science. But there is still another way in which the history of medicine may be considered, and that is as the history of particular diseases. The last method is the one which Professor Dejerine himself proposes to adopt. The present course of lectures will deal with the history of the nervous system and its diseases. "Less than a century old, neuro-pathology has been built and cemented by that galaxy of learned men of whom Pinel, Esquirol, Parchappe, Magendie, Ollivier (d'Angers), Boyle, Baillarger, Morel, Foville, Lallemand, Cruveilhier, Leuret, Grabiolet, Flourens, Luys, C. Bernand, Duchenne (de Boulogne), Broca, Charcot, Vulpian, Brown-Sequard, are the most distinguished, and who are still the glory of French medical science."

A course of lectures upon the history of medicine could hardly fail to be an important aid to the higher culture of the medical student. Until such courses exist among us, it would not be amiss for our lecturers to consider how much their lectures would gain in interest if they would refer as occasion offered to the principal epochs in the development of their special subject, and take occasion to make their students acquainted with, at least, the brightest stars in their particular firmament.

Professor Clifford Allbutt and the Darwinian Theory.

AT the Sanitary Congress recently held in Bradford, Professor Clifford Allbutt, President of the Section of Sanitary Science and Preventive Medicine, devoted his opening

address to a defence of the medical profession against the charge that its work results in the survival of the unfit, and the consequent propagation of bad stock. Such a reproach, he said, had been made against the profession from the time of the Greeks. That in particular cases the medical craft perpetuated invalid lives, and gave occasion to the increase of unsound generations, was unquestionably true, as it was true that law might favour injustice, and religion engender hypocrisy; but disease had had a pretty free hand until our time, and yet in the biographies of famous men of the seventeenth and eighteenth centuries we perceive not only that the standard of old age was much lower than at the present day, but that mortality among young persons would seem to have been enormous.

Elimination of the unfit by disease was too rough a method of compassing the survival of the fittest, even if the most vigorous of body were regarded as the salt of society. The profits were remote and precarious; the cost instant, enormous, and inevitable. They would do better to banish incidental disease, and to keep and develop the strong and the weak together for other conflicts. Disease did not kill; only too often it maimed and enfeebled; so that in a substantial, perhaps in a very large proportion of cases it subtracted the patients whom it might ultimately spare from the sum of the vigorous and added them to the sum of the relatively inefficient. Instead of withdrawing himself into the contemplation of disease as a means of suppressing the feeble and the maimed, the physician must endeavour to gain the countenance of the Darwinian by making it appear more and more approximately true that if the physician could but carry prevention far enough back—back to youth, back to childhood, back to infancy, back to the womb, nay, farther and farther back to the parent and grandparent, even to the third and fourth generation, whose physiological and other sins had visited their children—the margin for essential frailty of pedigree might merge into extinction. When Sir Frederick Maurice and other philanthropists warned them that the people were degenerating, should they submit to be told that medicine must bear some part of the blame? Should not the physician proclaim again to the deaf that it was not only infectious fevers and the poisons of tubercle, of rheumatism, of syphilis, of alcohol, which often blighted when they did not kill, but also the more insidious, and therefore more pervading and more perpetual degradation of bad air, bad houses, and other bad or defective conditions of life which perverted the lines of natural development and took the bloom off the fruitage of successive generations? To proclaim that by preventive medicine they could improve all bad stocks up to the present

mean value, and fertilise the good ones to be fruitful infinitely above the mean, was more than he dared suggest, but he did declare that public health would do it better and more permanently than public disease could do it.

Prof. Hepburn.

DR HEPBURN'S friends and former pupils will all be glad to hear of his election to the Chair of Anatomy in the University College of South Wales and Monmouthshire.

Dr Hepburn has served a long apprenticeship under Sir William Turner, and takes a ripe experience to his new post.

Competitive Professorships.

THERE are many different ways of filling vacant chairs. The Crown appoints to some, the Curators of patronage to others, and others are filled by specially selected boards of Trustees. So far as we are aware, Aberdeen is unique in its method of appointment to one of its Divinity Chairs. The Chair of Systematic Theology is open to competitive examination. The examiners are nominated by the Presbyteries comprised in the Synod of Aberdeen, and these examiners set papers and examine orally all-comers—provided they are duly licensed ministers of the Church of Scotland.

The ordeal lasts for nearly a week, but there is no suspense, for the result is immediately declared. It seems, indeed it is an unusual method, but we learn from inquiry in Aberdeen that it works well, and that almost invariably the successful candidate has made a successful professor.

Medical Education.

THE opening of the winter session is always associated with pronouncements on the subject of medical education, delivered usually as introductory addresses. This year three are of special interest to Scotland.

The first communication (not an inaugural address) is headed: "Suggestions on Medical Education and Reform," by R. Farquharson, M.D., M.P. Whatever be Dr Farquharson's general political views, in medical politics he is of the extremest type of Conservative. He considers it "a waste of money to provide bacteriological installations and physiological laboratories in every school." "Our young fellows are over-coddled and fed with spoon-meat nowadays. There is a tutor at hand to expound and explain everything." In the good old days when he was a student, "Gregory's attempts at professional instruction were simply absurd."

Goodsir was "not much better," and Dr Farquharson would have been plucked if he had not had recourse to Struthers and Wilkinson, who, under the name of coaches, did the tutorial work. "In the good old days the yellow and faded leaves showed the antiquarian nature of the lecturer's MSS.," but, nevertheless, according to Dr Farquharson, the professor was busily engaged in research.

He thinks we should do away with all extra examiners, and leave examinations entirely to the professors, so that the student might have the look of a "kent face" to restore his scattered thoughts to the matter in hand.

Dr Farquharson would devote the first two years exclusively to anatomy, chemistry, botany, materia medica and physiology, and would not let the student continue his course until these had been cleared away. These would, of course, be very busy years, but the crowding is explained later on when we learn that it is proposed to revert to the four years curriculum.

Dr Farquharson's views of the General Medical Council as a whole are not flattering to that body, and we do not think they are shared by the great body of the profession. He accuses it of "inventing work," of abolishing "that most useful body of men —the unqualified assistants," for the amazing reason that "their existence annoyed the comfortable consultants of Harley Street and Savile Row." It is difficult to reconcile his views of the Council with his compliment that they are "all honourable and distinguished men, and the chairman exceptionally dignified."

There are a few, a very few grains of useful suggestion in the article; but the references to teaching make one reflect with satisfaction that although Dr Farquharson is a graduate of Edinburgh and a Member of Parliament for a Scottish constituency, his experience as a teacher was acquired in London.

PROFESSOR SCHÄFER'S Address on the Medical Curriculum, delivered at the opening of the Leeds School of Medicine, is a much more serious contribution to the subject. But surely it is time that Prof. Schäfer abandoned his habit of using the University, of which he is so distinguished an ornament, as "an awful example." The University of Edinburgh has no doubt its faults, but it seems hardly necessary for one of its professors to journey to Leeds for the purpose of drawing attention to them.

Apart from this objectionable feature, which surely Prof. Schäfer might omit in his next pronouncement, there is much of value in the Address. He subjected the whole curriculum to much useful criticism; we would have used the word "courageous," were it not that we feel there is too little of the "two o'clock in the morning" courage about Prof. Schäfer's

proposals. It is so easy to reform on a platform, when no one can reply.

At the outset he ran tilt against the whole present system of school education, and proposed to sweep away Latin and Greek, in favour of modern languages and natural science. The next proposal is to relegate the preliminary scientific subjects to the school period. Now this matter may be arguable, but it is essentially platform reform; if it be adopted as part of the reform platform it will delay reform for years. The professors of these subjects will fight to the death a proposal which practically abolishes them from the medical curriculum, and we feel that it would be much more diplomatic only to insist that these subjects be passed before the student commences the study of medicine proper; indeed, Prof. Schäfer's plan assumes that the preliminary sciences occupy one year of the medical curriculum. His further suggestion that anatomy and physiology should solely occupy the next year is exactly what local reformers have been trying to bring about, and we are much relieved to hear from Prof. Schäfer that "because he is a physiologist himself he does not think it necessary that every medical student should become one."

In the paragraph dealing with the later subjects of the curriculum we come across some courageous platform utterances with which we are in entire agreement. "It is undesirable to expect as much time to be given to the teaching of such subjects as midwifery as to medicine, to pharmacology as pathology." "Materia medica in the strict sense ought not to be part of the curriculum." "If a man intends to be a chemist as well as a doctor he should hold the pharmaceutical diploma."

There is much to be said for the suggestion that students should be allowed to go up for their examinations as soon as they have completed their curriculum on certain subjects, and there is no one whose influence would be greater in determining that students should go up for their examination in physiology when they have completed their course than Prof. Schäfer. We promise him plenty support in the Edinburgh Medical School if he will advocate this reform off the platform.

Prof. Schäfer's scheme indeed very closely resembles that put before the General Council of the University by Dr Berry two years ago, but rejected after consideration by the Faculty of Medicine. We are, however, glad to learn from the report of the General Council that the necessity for some reform is admitted.

THE last article with which we propose to deal is Sir Victor Horsley's Address at Birmingham.

After pretty severely handling the Education Department on account of its attitude to universities, as expressed by Sir Wm. Anson, he passed on to deal more particularly with the medical faculties of the universities, and soon reached his favourite topic of the one-portal system. There is no doubt that the recent multiplication of universities in England has brought this question much nearer to the front, and it is one which will have to be seriously considered in all medical schools. When one reflects that in the course of two or three years half a dozen new registrable degree-giving universities are to be added to the list, it is obvious that the competition between these will have to be very carefully watched. We must confess to viewing this question with a more favourable eye than we did a few years ago. We do not believe that properly conducted universities would have anything to fear from the one-portal system; their degrees would be more valuable than before, and would probably be as much sought after as ever. Some universities would medically no doubt "go to the wall," but they would probably develop more successfully on other lines. Protection in medical education, at least, is undesirable.

Those who are antagonistic to the Carnegie Trust will not get much sympathy from Sir Victor Horsley; he holds that the State should pay the cost of medical education, which he regards as an unjustifiable expense on the parents or guardians of medical students. Sir Victor concluded by earnestly advising the new university of Birmingham to take the initiative in Medical Education as it did in other great national movements. Much, of course, must be allowed for the exigencies of a peroration, but we think he might have chosen some less contentious comparison.

Glasgow and Tropical Diseases.

MAJOR RONALD ROSS visited Glasgow in the middle of October for the double purpose of inaugurating the winter session at Anderson's College Medical School and of acting as a "missionary of empire," to quote his own words, having in view the interest taken by a great commercial centre like Glasgow in everything that will further the safe and healthful extension of trade. In the forenoon of 16th October, Major Ross delivered an address at Anderson's College to a crowded audience, taking as his subject "Medical Science and the Empire." At the outset he expressed the pleasure he felt in inaugurating a new session in a college which could claim among its alumni two such men as David Livingstone and Sir William Macgregor—men who had had an inspiring influence on his own work. The speaker then drew attention to the fact that civilisation was

concentrated in two great parallel bands in temperate countries, separated by a broad tropical zone which was essentially still in barbarism. Why, he asked, had men not overflowed long ago into Central America and Central and West Africa? As far as the latter (the region in which he was most interested) was concerned, he would like to draw attention to these facts:—it had a splendid seaboard; ground that could produce anything, especially cotton, rubber, and other valuable raw products; an immense population running into many millions; great waterways, and a mean annual temperature which was less than that of India. Yet this country was not a second India, and why? It was because, unfortunately, it was the hot-bed of various tropical diseases, so serious, so devastating, that it had gained the grim appellation of the "white man's grave." The health conditions in many parts of Africa render exploration most difficult, and cripple both commerce and scientific statesmanship, without which there can be no true civilisation. It is here, said Major Ross, that medical science is a helpmate to the Empire. He told, in a most graphic manner, the discovery of the malaria parasite in the mosquito during his work in India, a country from which malaria exacts a daily death-toll of ten thousand persons. Remarkable and convincing proofs of the practical benefit that has resulted from the application of the principles he had enunciated were then given, amongst the examples quoted being Lagos, Ismailia and Havana. In conclusion, he urged upon his hearers the importance of the study of diseases of warm climates and of the establishment of proper schools of tropical medicine, and deplored the apathy of the Government in this, a matter which so closely concerned the weal of the Empire.

American Graduates of Edinburgh.

We quote from *The Medical Age*, August 1903, under the title of Ante-Revolutionary American Graduates of the University of Edinburgh. By Rush McNair, M.D., Kalamazoo, Mich.

Edinburgh has always, as now, enjoyed the medical primacy of British universities. Hither from the empire upon whose border the sun never sets come the sons of Britain and Ireland's colonials; hither from the ends of the earth, the sons of her traders and her far flung battle line. And with them come swart faces from the illimitable veldt, where Afric's sunny fountains are a missionary poetic fantasy; and with them too the only less dark browed Hindu, he of the mydriatic psychic eyes.

Thus to the same shrine in our colonial days young Americans came. They, in fact, were the forefront of the van

of that procession of youth which from across seas has wended its way up to the modern Athens.

Not until the first decade of 1700 do the records of the university indicate the nativity of its alumni. But at that time the nationality of the graduate is given, and further:

"Ii, qui ad hunc gradum admissi sunt post institutam Facultatem Medicam, et ab eo Senatui Academico commendati; titulis dissertationum inauguralium anjectis."

The class of 1749 numbered eleven. And here appears the first American name: Joannes Moultrie, ex Carolina Mer. Thesis: De Febre maligna biliosa Americæ.

Class of 1752 numbered nine, of whom was Carolus Moore, Pennsylvaniensis. Thesis: De usu Vesicantium in Febribus.

In 1753 there were thirty-one graduates, two of whom were Americans: Jacobus Jay, Nov. Eboracensis, Dissertatio, De Fluore Albo; Valentinus Peyton, Virginiensis, Dissertatio, De Abortu.

In 1757 graduated Thomas Bulfinch, Nov-Anglic, who wrote on De Crisibus.

In 1758 Thomas Clayton, Virginiensis, De parca et simplici medicina.

In 1761 Gulielmus Shippen, Pennsylvaniensis, De placentæ cum Utero nexu. This class had but six members.

The class of 1762 had two more than the preceding year and numbered one American, William Smibert, Massachusettensis, De Menstruis retentis.

Of the ten graduates of 1763 there were: Theodoricus Bland, Virginiensis, De Concoctione alimentorum in ventriculo; Joannes Morgan, Pennsylvaniensis, De Pura confectione.

1764. Seven graduates. Arthur Lee, Virginiensis, De Cortice Peruviano.

1765. Thirteen graduates. Samuel Bard, Americanus, De viribus Opii; Corbin Griffin, Virginiensis, De viribus Camphoræ, Thomas Ruston, Pennsylvaniensis, DeFebribus biliosis putridis; Jacobus Tapscott, Americanus, De Chlorosi; Samuel Martin, Americanus, De Balneo.

1767. Twelve graduates. Adamus Kuhn, Pennsylvan., De Lavatione frigida; Geo. Steptoe, Virgin., De Febre nervosa.

1768. Fifteen graduates. Benj. Rush, Pennsylvaniensis, Decoctione Ciborum in Ventriculo; Gust. R. Brown, Maryland, De ortu animalium Caloris; Isaac Chanler, Americ., De Hysteria.

1769. Seventeen graduates. Joseph Godwin, Virgin., De Epilepsia; Pet. Fayssonx, ex Carolin. Meridional, De Tetano; Tho. Caw, ex Carolin. Meridional, De Hæmoptœ; Gault. Jones, Virgin., De Dysenteria.

1770. Twenty-two graduates. Gul. Logan, Philadelph., De regimine Phthisicorum; Jac. M'Clurg, Virgin., De Calore; Joan. Ravenscroft, Virgin., De Ictero; Gul. Brown, Americ., De viribus Atmosphæræ; Car. Drayton, Carolin., De Venere; Arch. Campbell, Virgin., De Inflammatione.

1771. Eighteen graduates. Tucker Harris, Carolin., De Cholera spontanea; Gul. M'Ilvaine, Pennsyl., De Anorexia; Isaac Hall, Virgin., De Thermis.

1772. Fifteen graduates. Joan. Parnham, Maryland, De Cystirrhœa.

1773. Sixteen graduates. Ignat. Dan. Knolton, Philadelph., De Pertussi; Geo. Logan, Carolin., De morbis Infantum; Gul. Ball, Virgin., De Tabe mesenterica.

1774. Sixteen graduates. Joan. Griffin, Virginiens., De Potione frigida; Phil Turpin, Virginiens., De Epilepsia.

1775. Twenty-two graduates, only one of whom was an American: Rob. Peronneau, Carolin, De Menstruorum profluviis.

1776. Eighteen graduates, of whom from the revolting colonies were: Joshia Gibbons, Georgiensis, De quibusdam puerperarum morbis; Sam. Nicoll, Americ., De Arthritide; Ezek. Joan. Dorsey, Americ., De Nutritione; Joan. Carson, Philadelph., De Cantharidum historia, operatione et usu; Dionys. Dorsey, Americ., De Chlorosi.

From 1776 to the declaration of the peace at Versailles in 1783 eleven other young Americans received their medical degree.

Comparatively speaking, the number of our colonial forbears at Edinburgh is surprisingly large. And from what few indications are now extant it appears that these young Americans, like the colonials of to-day, held high standings in the lecture-room and laboratories. Many of them became men of note in the Revolutionary days, in affairs of State, as well as in the world of science, and did their share in the building of our great Republic.

Forthcoming Congresses.

TWO International Congresses fall to be held next year. While there is, we think, only one opinion as to International Congresses of Medicine, there is probably also only one opinion as to the usefulness of the special congresses.

The Ophthalmic Congress will meet in Lucerne, under the Presidency of the President of the Swiss Confederation, who happens to be a Doctor—Herr Deucher. This is probably the first time our readers have ever heard the name of the President

of the Swiss Confederation. The acting President is Prof. Dufower, Vice-President, Prof. Pfluger, and the Secretary, Prof. Mellinger. The dates are September 19th to 21st, and the only official discussion is as to the value of a lost or injured eye. Dr George Mackay, 20 Drumsheugh Gardens, is one of the foreign secretaries and will supply any further information.

The International Congress of Dermatology will meet in Berlin from September 13th to 17th, under the Presidency of Prof. Lesser. The secretary for Great Britain and Ireland is Dr Arthur Whitfield of London.

The Dermatological Congress necessarily limits itself to the large cities, but we fancy that the ophthalmologists will have the better time.

West Africa. WE have had brought under our notice some information regarding the West African Medical Service which is well worth the consideration of the more adventurous type of graduate. The salaries are good, the minimum being £400 a year. One year of service is followed by four months' clear leave in England on full pay. The sanitary conditions of these regions are much better than they were, and if one chooses to stick to the service the pensions are on a satisfactory scale. Each candidate after selection will undergo a course of instruction at one of the Schools of Tropical Medicine, the cost of which will be borne by the Government.

Every information may be obtained on applying to the Under-Secretary of State at the Colonial Office.

Royal College of Surgeons, Edinburgh

AT a meeting of the College held on 21st inst., the following gentlemen, having passed the necessary examinations, were admitted Fellows of the College:—Nicholas Norman Blanchard, L.R.C.S.E., Canada; Henry Norman Barnett, L.R.C.S.E., Belfast; Raphael Aaron Belilios, M.B., Ch.B., London, S.W.; John Macaulay Bowie, M.D., M.R.C.P.E., Edinburgh; Percy Carr-White, M.B., C.M., Major, Indian Medical Service; Reginald Laidlaw Davies, M.B., L.R.C.S.E., New South Wales; George Day, L.R.C.S.E., Aviemore; Farbrace Sidney Gramshaw, M.D., L.R.C.S.E., Easingwold, Yorks.; John Archibald Hamilton, M.B., C.M., Captain, Indian Medical Service; Lawrence Fielder Hemmans, M.B., Ch.B., Lines; William Smith Kerr, M.B., C.M., Sheffield; Charles Edward Lester, L.R.C.S.E., New South Wales; Peter Murray, M.B., Ch.B., Edinburgh;

Robert Odell, M.R.C.S. Eng., L.R.C.P. Lond., Hertford; George Henry Peake, L.R.C.S.E., Madagascar; Lorne Forbes Robertson, M.D., M.R.C.S. Eng., Ontario; William Moore Skipwith Robinson, L.R.C.S.E., London; Simon Ryan, L.R.C.S.E., Sheffield; Alexander Stookes, M.B., L.R.C.S.E., Liverpool; William James Stuart, M.B., Ch.B., Edinburgh; Walter Henry Swaffield, M.B., L.R.C.S.E., Sevenoaks, Kent; and Frederick William Kerr Tough, L.R.C.S.E., Leith.

The Royal Infirmary and the Age-Limit.

JUST as we go to press we hear that the Managers of the Infirmary have adopted sixty-five as the age-limit for the retirement of the Staff. It is understood that this does not apply to professors, so that the congestion question still remains for discussion. The Staff will, however, feel much more freedom in discussing it in the absence of anything suggestive of the "big revolver."

Recent Literature

CRITICAL SUMMARIES AND ABSTRACTS

NEUROLOGY

By ASHLEY W. MACKINTOSH, M.A., M.D., Aberdeen

The Prognosis and Curability of Epilepsy (William Aldren Turner, *Medico-Chirurgical Transactions*, 1903, vol. lxxxvi.).—This important paper is of the nature of a statistical enquiry, based upon the results of treatment of 366 cases of genuine idiopathic epilepsy which had been under constant observation and treatment for a period of at least two years: 355 of these cases are from the records of the out-patient department of the National Hospital for the Paralysed and Epileptic, Queen Square. The cases are divided into three groups, according as they responded, successfully or otherwise, to treatment—arrested (86 cases), improved (105), confirmed (175). The various conditions influencing *prognosis* are considered in detail, and the chief conclusions are as follows:—(1) A *family history* of epilepsy will be found more frequently amongst those who have become confirmed epileptics, but an hereditary history of epilepsy does not necessarily militate against the prospects of arrest or improvement of the disease in any given case. (2) The *age at onset* of the disease has an

especial bearing upon the prognosis. Cases commencing under 10 years of age are the least tractable, while those in which the onset of the disease is between 16 and 20 years of age are the most favourable; the greatest percentage of confirmed cases is found amongst those in whom the disease begins between 25 and 35 years of age, from which time onwards there is a steady increase in the expectations of arrest and diminution in the number which become confirmed. (3) The *duration* of the disease influences the prognosis to the extent that arrest or improvement is much more likely during the first five than during the second five years; cases may, however, be arrested even after a duration of twenty to thirty years. (4) The *frequency* of the attacks has an important bearing on the prognosis: the greatest percentage of confirmed and the lowest percentage of arrested cases occur in those epileptics who are subject to daily or weekly attacks, while the opposite holds good of those whose fits occur only once or twice a year. (5) The *character* and *time* of the seizures influence the prognosis: the major attacks are the most tractable, then follow combined major and minor seizures, while minor attacks occurring alone are most intractable; attacks occurring only by day give a greater percentage of arrests than those occurring only during sleep. (6) *Marriage, pregnancy, menstruation* exert little, if any, influence on epileptic fits: the *puerperium* and, in some cases, *lactation*, seem to be specially favourable for their occurrence. (7) *Sex* plays little part in the prognosis. (8) An *acute inflammatory disorder* as a rule gives a temporary respite from fits, with the exception of scarlet fever, but the relief is not prolonged.

Long remissions, induced either by successful treatment or from spontaneous cessation of the fits, sometimes lasting for several years (*e.g.* 15 years in one of Turner's cases), are not unusual in epilepsy: they are of favourable prognostic value, but are not synonymous with a cure of the disease.

Is there a cure of Epilepsy? This question is answered in the affirmative. Assuming *arrest for at least nine years as the basis upon which a cure may be established*, Turner finds that his statistics show that 10.2 *per cent. of epileptics are curable.* There are some cases of epilepsy which may be regarded as belonging to a curable type of the disease: these present little or no mental impairment, notwithstanding that fits may have existed for a long period. In the cases in which arrest took place, cessation of the fits occurred within the first year of continuous treatment in over 50 per cent.

The Results of Surgical Treatment of Brain Tumours (M. Allen Starr, *Journal of Nervous and Mental Disease*, July

1903, p. 398).—Starr has collected 365 cases of brain tumour in which an operation has been attempted, and gives the following table of results:—

		Cerebral.	Cerebellar.
Total number of cases operated on	365	315	50
Cases in which the tumour was not found	111	91	20
Cases in which the tumour was found but not removed . .	27	21	6
Cases in which the tumour was removed and the patient died .	59	51	8
Cases in which the tumour was removed and the patient recovered	168	152	16

The increased accuracy of diagnosis and of localisation, the improvement in surgical technique, and the knowledge that a tumour lying some distance, say one or two inches, below the surface may be reached, lead Starr to think it "probable that the statistics of the next ten years will show a very much greater percentage of successes than do the statistics up to the present time." He takes a very unfavourable view of operation for cerebellar tumour. He finds from measurements made on the cadaver that only one-tenth of each hemisphere of the cerebellum can be reached by the surgeon through the occipital fossa, and that the surface so accessible is very rarely the seat of a tumour; cerebellar tumours lie in one or other of two situations, equally inaccessible, either in the middle lobe directly beneath the tentorium, or in the sulci between the cerebellum and the pons-medulla. "After a considerable experience (I have had nine such cases operated upon without any success) it seems to me futile to attempt this operation."

In the appendix to the paper the cases which have been published since January 1st, 1896, are tabulated.

On the Diagnostic Value of the Position of the Head in cases of Cerebellar Disease (F. E. Batten, *Brain*, 1903, p. 71). —Risien Russell has shown experimentally that, after removal of one lobe of the cerebellum, the animal tends to assume a very definite attitude, viz., the trunk is curved with the concavity to the side of the lesion; the side of the face is approximated to the shoulder on the same side, and there is a rotation of the neck, so that the side of the face corresponding to the cerebellar lesion is turned upwards and the chin is directed to the unaffected side.

Batten has investigated pathologically six cases of cerebellar

tumour in man, and he finds that, in three of them, a definite attitude of the head was assumed, viz., with the ear on the side opposite to the lesion approximated to the corresponding shoulder; in the remaining three no special position of the head was present. Notes are given of a case which is of special interest and value, inasmuch as the cerebellar lesion was so localised and became so quiescent that it failed to give rise to any symptoms for many months before the death of the patient, and yet during its active stage it gave rise to a very definite group of symptoms. Among these symptoms was a very definite attitude: when standing or sitting the patient held her head to one side, so that her left ear was approximated to her left shoulder; her face was turned to the right and the chin was slightly elevated; there was a slight spinal curve with the concavity to the left. She died of tuberculous meningitis, evidence of which was found at the autopsy: a hard calcareous tuberculous mass was present in the substance of the right lobe of the cerebellum, adherent to the dura mater over the petrous bone.

Batten's conclusion, therefore, is that "a definite attitude of the head is not infrequently seen in cases of cerebellar disease in man, that position being with the ear approximated to the shoulder on the side opposite to the lesion and with the face turned up to the side of the lesion. This position of the head, so far as the approximation of the ear to the shoulder is concerned, is the reverse, while the position of the face is the same as that seen after experimental ablation of one lobe of the cerebellum."

He thinks that, as an additional and confirmatory sign of cerebellar tumour, the position of the head is of value; but too much importance should not be attached to its presence, especially in view of the fact that a similar position of the head is sometimes present in cases in which there is no gross lesion of the cerebellum. Thus, in one case with headache, vomiting, nystagmus on conjugate deviation of the eyes to the right and unsteadiness in standing, there was a definite posture of the head, viz., with the right ear approximated to the right shoulder and the face looking towards the left and the chin well forward; the autopsy showed no lesion of the cerebellum, but marked hydrocephalus due to blocking of the foramina in the region of the fourth ventricle.

On the Early Differential Diagnosis of Morbid Processes involving the Base of the Brain (G. Mingazzini, *Journ. of Ment. Path.*, 1903, vol. iv. p. 97). — Frequently there is no great difficulty in diagnosing a case as an affection of the base of the

brain, but there is often great doubt as to the nature of the affection—whether a new growth or tubercular meningitis or syphilitic disease. Various points of differential diagnosis have been proposed by different writers, more especially the result of anti-syphilitic treatment. Mingazzini gives notes of seven cases of basal disease; in four of these, autopsies were obtained; others recovered under anti-syphilitic treatment—which demonstrated the nature of the disease beyond doubt. From the study of these cases, he has compiled the following table of the differential diagnoses between the diseases named:—

	Chronic tubercular basilar meningitis.	Specific basilar meningitis.	Tumours of the base of the brain.
1	Age of childhood.	After the age of from 20 to 30 years.	At any age.
2	Hereditary predisposition. Presence of other tubercular affections.	Presence of other syphilitic manifestations. In women—abortions.	Manifestations of neoplasms in other parts of the body.
3	Febrile temperature (38° to 39° C., or more).	Temperature normal or about 38° C.	Absence of fever.
4	Rigidity of the neck muscles.	Rigidity of the neck muscles rare.	———
5	Mental obtusion quite marked.	Between the spells of somnolence and coma there are periods of lucidity.	———
6	Meningitic symptoms precede signs of paralysis.	Rapid development of paralysis of the cranial nerves.	———
7	———	———	Optic neuritis rapidly reached a marked degree.
8	Headache at any time.	Headache is preferably nocturnal.	———

It is not claimed that these criteria are infallible, but they are believed to represent the features of the respective diseases "in a general way." Great importance should be attached to the examination of all the other organs of the body in such cases of cerebral disease. This is true specially of tubercular disease, with regard to which Mingazzini's conclusion is that "in cases of incipient affection of the base of the brain, with uncertainty of their ætiology, tubercular infection may be decided on if there are present *tubercular heredity, tubercular affection of other organs besides the brain, and an early involvement of the*

mental faculties. However, there are some cases the diagnosis of which cannot be made until their course has been observed and the effect of antisyphilitic treatment tried."

Veronal as a Sedative and Hypnotic.—W. Spielmeyer (*Centralbl. f. Nervenheilk. u. Psychiat.*, Aug. 1903, p. 513) reports very favourably of the use of *veronal*, lately introduced by Fischer and von Mering, as a sedative, and more especially as a hypnotic, in the Psychiatric Clinic at Freiburg. It was used in cases of neurasthenia, hypochondria, hysteria, melancholia, mild maniacal conditions, general paralysis, etc.; the average dose was half a gramme, sometimes a gramme, rarely more; it is best given in wafers, but it may be given in hot milk or tea. Sleep is induced as a rule in about half an hour, although cases of severe insomnia or of excitement take longer (one and a half to two hours). The advantages claimed for it are that it is practically harmless, that it induces an almost natural desire for sleep without any troublesome accompaniments (*e.g.* tinnitus, giddiness, etc.), that the sleep is pleasant and refreshing, that its use is not followed by any loss of appetite or sickness or other sign of gastric or intestinal disturbance, that neither the circulation nor the breathing is affected by the larger doses or by long use, and it has been given safely in arteriosclerosis and in cases of uncompensated heart disease; further, there is no unpleasant taste or smell. It has to be noted, however, that, like other hypnotics, its effect diminishes with use, so that the dose has to be increased; that it is uncertain in its effect in some conditions of excitement; that some people show an intolerance of even small doses, and that in other cases, where a somewhat large dose is required to produce the hypnotic effect, a protracted state of drowsiness and sleepiness has followed—in no case, however, were there any alarming symptoms.

TUBERCULOSIS

By DAVID LAWSON, M.A., M.D.,
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FEW who have devoted any thought to the subject will be disposed to dispute the assertion that of all the problems in life which owe their existence to disease, there is no one which at the present moment occupies a larger place in men's minds than that arising out of tuberculosis. Whilst the vast territorial distribution of the disease, commensurate as it is with the civilised globe, and the multiplicity of the clinical forms which it presents, might in themselves be held sufficient

to account for this, there are other elements, hardly less important, which contribute their meed of interest. The anomaly presented by the existence of a highly infectious disease which places a heavy embargo upon human life, and so far as legislative enactments are concerned, is treated as an ailment of altogether minor importance, has at last begun to attract public attention. Members of Councils and other ruling bodies are now yielding a tardy consideration to measures having for their object the limiting of tuberculosis and the solving of those various social and economic problems dependent upon it.

Obviously, to review in a single article in an adequate manner the work which is being done over so large a field, is altogether impossible. It has therefore been considered wise to limit the scope of the present paper to the purely clinical matters, and to reserve for future consideration other aspects of the subject.

Petruschky (1) is of opinion that, in some instances, pulmonary tuberculosis can be diagnosed before any physical changes have taken place in the lungs. He asserts that the earliest change which appears is enlargement of the bronchial glands, and that the lungs become affected subsequently to those. If at this stage one applies firm pressure between the second and the seventh dorsal vertebræ inclusive, tenderness will usually be elicited. This tenderness, he explains, is due either to irritation caused by the presence of the underlying enlarged glands, or by commencing spinal caries.

An interesting case, which apparently supports this view, is recorded by Thorpe and Grayebrooke (2). It presented symptoms of general miliary tuberculosis with well marked evidences of the presence of myelitis, involving the conus medullaris and the cauda equina. A point of special interest raised in this case is the view held by the writers that a psoas abscess which had been present, instead of pointing in the usual direction, followed the course of the lumbar nerves, penetrated the spinal cord through the foramina, and there set up pressure-myelitis. Notwithstanding much which can be urged against it, the theory possesses the material advantage of being anatomically plausible.

There also appeared in these columns the record of a case by Gray of tubercle involving the spinal cord. In that instance it took the form of a tumour 1¼ in. long by ¾ by ⅝, situated at the level of the twelfth dorsal and first lumbar vertebræ. After an operation which lasted over two hours, the writer succeeded in removing the tumour and securing the satisfaction of seeing the symptoms to which it had given rise completely relieved.

That a causal nexus may exist between traumatism of the chest wall and tubercular infection of the underlying organs is suggested by Weir in a case which he records, where local infection of the pleura took place after an injury received in that region (3). With James, Weir holds that traumatism plays a much more important rôle in the causation of phthisis than is usually admitted.

Various manifestations of tuberculosis in the genito-urinary tract are rapidly demanding much more attention than they have been wont to receive. The most recent evidence of this is to be found in the fact that they occupied the chief subject of discussion, not only at the Obstetric Congress held in London, but also at the Gynæcological Congress which took place at Leipzig last year (4). At the latter of these two conferences, quite a consensus of opinion found expression that this form of tuberculosis is by no means so rare as has been thought, but on the contrary it is of quite common occurrence. Gallschalk exhibited a specimen showing localised patches of tubercle surrounded by healthy tissue in the deep parts of the uterine parietes. Audun and Martin asserted that in nearly every instance genito-urinary tuberculosis is secondary to pulmonary tuberculosis, and attacking the Fallopian tubes first, usually descends to the uterus and vagina later on. In those cases iodine injections and iodoform locally applied met with a measure of success, but it was found that, *par excellence*, the best treatment was complete extirpation of the diseased area. Motz (5) reports eight cases of recovery from cystic tuberculosis. In six of the cases no special treatment was applied. In one instance the part was curetted and oil of guaiacol injected, and in the remaining case, instillations of corrosive sublimate, 1 in 5000, were applied. The writer inclined to a more hopeful view of these conditions than we have been accustomed to hold.

In discussing the matter of tuberculosis of the kidney, Wallace (6) draws attention to Cathcart's method of distinguishing between uni-lateral and bi-lateral lesions. It depends for its efficiency upon the employment of cystoscopic examination with intra-urethral catheterisation, cryoscopy and subcutaneous injections of Methylene blue.

Suter (7) of Basle records the results obtained in 42 cases where those methods were employed. On special occasions he supplemented Cathcart's method by employing experimental glycosuria, the estimation of urea passing from each ureter separately and the determination of the freezing-point of the urine, as practised by Korany abroad and Ogston in this country. In every case he succeeded in growing cultures of tubercle bacilli from samples of urine so obtained. He operated on 14

cases, with 12 recoveries and 2 deaths. In Kuster's experience, which extended over 300 cases, a mortality of 28 per cent. was recorded. The mortality in Israel's cases amounted to 28.5 per cent.

Mackenzie Booth (8) describes a case in which for unilateral tubercular disease he removed the left kidney. Its principal interest for us lies in the fact that at the present moment, three years after the operation was performed, the patient states that since her stay in hospital she has enjoyed excellent health, and now fulfils with comfort all her ordinary duties in life. Her present weight is 10¼ stones.

Some interesting points have been noted in connection with phthisis laryngea. Maget and Planté (9), after having worked out the action of peroxide of hydrogen on tubercular lesions in guinea-pigs, proceeded to apply it to those of the larynx in the human subject. The results which they record are startling. In one case of ulceration of the left vocal cord where a small vegetation was present at the commissure, peroxide of hydrogen inhalations were applied. At the end of 14 days the ulceration was found to be healed and only a small cicatrised scar remained on the cord. The effect in another case in which after three weeks' treatment the normal appearance of the parts was restored was hardly less startling. The writers would have done well to supply us with some detail regarding the method of administering these inhalations. Still they have said enough to show that the subject is worthy of further investigation.

Lake (10) records the result of surgical interference in 329 cases. The treatment met with complete success in 48 instances, or rather more than 15 per cent. of the cases operated upon. As a result, the writer says, cases of laryngeal phthisis should never be considered so grave as to warrant being left alone.

Ophthalmologists supply some points of interest to the subject.

Ramsay (11) describes a case of tuberculosis of the iris which completely recovered under treatment. The value of his paper is enhanced by the presence of a beautiful coloured illustration which accompanies it.

Berry (12) successfully treated by removal of the area, a case of acute miliary tuberculosis of the conjunctiva. The extreme rarity of this condition may be judged by the fact that it occurs once in every 15,000 cases. Tubercular chororoditis (13) is discussed by Jessop, who describes two cases. Stevenson found it present once in every ten tubercular cases examined in the surgical ward. If his observation is accurate, then there is room for more careful and systematic examination of the eye than it

usually receives. Personally I have not once found the condition present in over 700 cases examined.

At a meeting of the Société médicale de Hôpitaux à Paris, M. Braillon and MM. André and José related a case in which tubercular endocarditis was diagnosed during life. In it, blood obtained by puncture of a vein on three separate occasions yielded tubercle bacilli on cultivation and tuberculosis in the guinea-pig on inoculation. Post-mortem evidence showed the presence of vegetations on the aortic, mitral and tricuspid valves, each of which contained tubercle bacilli. The principal interest of the case to us consists in its showing the value of bacterial examination of the blood in tubercular patients suffering from endocarditis; as well as in patients apparently not tubercular, suffering from endocarditis the nature of which is obscure.

As medical literature contains only some 80 records (14) of tubercular mastitis, a case recorded by Levings (15) is of special interest. The nodes which appeared in the gland were hard but not sensitive, and a characteristic point was, that they were multiple and accompanied by enlargement of the axillary glands.

Surgery as applied to apical lesions is revived by Rochelt (16), who states a number of cases where excavation of the lung has been successfully treated by resection of the overlying rib or ribs without opening the pleura. The results of other cases in which the cavities themselves had been opened, were in nearly every instance bad.

The prognostic value of the Diazo reaction is discussed by Dr van Beneden (17), who confirms the view expressed by Ehrlich, that it is an ominous sign. Of 111 cases with which the writer deals, in which it was present, only 15 recovered. He points out that whilst it may disappear when the patient is gaining weight, its disappearance is but temporary, and the patient usually dies within six months of its first appearance. Like that of the writer, my own experience goes to substantially support the above view, and is at variance with that of De Boissière and Philip (18), who consider its presence a circumstance of minor importance.

The ground covered by Goodbody and others in 1900 in their investigation into the metabolism of phthisis has been again traversed by Mibelesen (19), and the conclusion then arrived at confirmed. The method employed has been the same in both cases, namely, endeavour is made to establish a relationship between the input and the output of nitrogen and phosphorus, and to regard it as a gauge of the metabolic changes at work. The amount of input is arrived at by placing the patient upon a measured diet. The output is estimated by measuring the amount of those elements present in the fæces and urine

respectively. The only new point brought out by this German observer is the fact that after hæmorrhage the proportionate excretion relative to the input of nitrogen and phosphorus by those channels becomes temporarily diminished. This is explained by the fact that a large amount of nitrogen and phosphorus has been lost in the evacuated blood. Minski (20) has also been working at metabolism, and his observations upon the dyspepsia of phthisis are worthy of repetition. He says that there are no special dyspeptic disturbances connected with phthisis, that real gastric dilatation is rare, and further, the pyrexia present is nearly always associated with hyper-acidity. He is supported by Hildebrand and Scheltz, the former of whom has shown that by giving antipyrin in 2-grain doses daily, and so reducing the temperature, the normal gastric secretion can be re-installed. The treatment of dyspepsia by the exhibition of antipyrin is certainly unusual.

Gordon of Exeter (21) has supplemented the valuable contribution which he placed before the Royal Medical Chirurgical Society in October 1900, by recording the results of more careful and extensive observations on the effect of winds—especially of westerly wet winds—upon phthisical patients. He concludes that westerly and south-westerly winds (the prevailing strong and wet winds in the district from which the observations were drawn) operate in raising the death-rate for phthisis. It is suggested that they owe their injurious effect to their tendency to produce bronchial catarrhal complication and to cause chill. The latter action is highly probable and is strongly suggested by the experiments of Professor Beacker (22), in which he showed that when flasks containing water had been exposed to a variety of winds, those which produced the most powerful cooling effect were "moist" winds. Penzoldt (23) contributes a laudatory article upon the value of rest in the treatment of phthisis. It is a reiteration of views which are no longer held by those in this country whose experience entitles them to speak with most authority upon the subject. He repeats the once respected assertion, found by myself in a very large number of cases to be absolutely erroneous, that a temperature of 100.4° Fahrenheit after exercise indicates that the exercise taken has been too severe and should not again be repeated for some time. He seems to be altogether unfamiliar with the value of the post-exercise fall in temperature as a guide in such cases.

The subject of the temperature of phthisis is dealt with by Kuthy (24) and Fanning. Kuthy points out that the amplitude of the temperature range in phthisis exceeds that of normal health by 1.8° F., and the aim should be to reduce it. The ground covered contains really nothing new, except the nomenclature. It was all covered by a paper (25) which appeared in these

columns over twelve months ago. Fanning (26) and Champion further confirm the findings of the writer's paper, based upon a very large number of observations. They state that in most cases the temperature may be safely taken in the mouth, provided that due regard be paid to suitable precautions being made against error. But as these precautions involve retention of the instrument in the mouth for a period of not less than ten minutes, and in some cases for as much as fifteen minutes, the regulation of the temperature of the outside air in contact with the cheek at a certain level, since the effect of cold air is to lower the reading; the discontinuance of breathing through the mouth during the period of observation; the provision that the patient must not smoke for some time before, otherwise the reading will err in being too high; the avoidance of menthol in jujube or other form, which raises the temperature, and of adrenaline which lowers it; their proper observance becomes impracticable. None of these sources of error are found in the rectal method, so that notwithstanding the obvious æsthetic objection which attends its adoption, its advantage over all other methods is substantially maintained.

In concluding this portion of the survey it is suitable to briefly refer to various sera and drugs which have been applied in the treatment of tuberculosis during the past twelve months. Dr Diguier de Maillaines (27) of Nimes read a paper before a meeting of the Académie de Médicine at Paris, describing a serum which he claims produces immunity in the guinea-pig. Having established its harmlessness by experimenting upon himself, he then applied it to patients in the first and second stages. He states that two were almost cured, three remarkably improved, whilst in the case of the remainder no effect was recognised. One cannot deprecate this sort of thing too strongly. Surely the writer ought to have tried its effect in a few hundred cases before rushing into print with his results? They need hardly be regarded seriously. Guerder (28) subcutaneously injected the active principle of cod-liver oil in 60 cases of tuberculosis; 1-2 grammes every four or five days were employed: 40 of the patients were cured, 4 died, and the remaining 18 were at the moment of writing still under treatment. Landerer (29) claims to have succeeded in obtaining cures in 75 per cent. of cases of phthisis in which hetol was exhibited. Hetol is said to do good in intestinal tuberculosis, but it produces the awkward accompaniment of cystitis. Where 20-25 ℥ were used in laryngeal cases, the results claimed were very good. Indeed they strike one as being too good to be true. Lardier (30) records that he benefited a limited number of cases of phthisis by administering

doses of 5-20 grs. yeast daily. It was supposed to act by the production of an antitoxin inimical to the accompanying strepto- and staphylo-cocci, and thus to indirectly benefit the host. Burnett (31) claims to have improved 11 out of 13 cases of phthisis which he treated by ichthyol. The treatment extended to a period of over six months. The average gain in weight noted was 4-9 lbs. The drug was administered in 4-grain capsules, and over 20 grains a day were given. Fraenkel in his cases employed a solution containing equal parts of ichthyol and distilled water, flavoured with oil of peppermint; but this method produced inflammation of the gastric mucous membrane, which was absent in the former. Its value was attributed to its action as a vaso-constrictor, which tends to restrain the congestion and inflammation. The antiseptic action attributed to the sulphur which it contains, is considered to be of minor value.

REFERENCES.

1. *München. med. Wchnschr.*, March 3rd, 1903.
2. *Lancet*, March 28th, 1903.
3. *Brit. Med. Journal*, May 23rd, 1903.
4. *Central. f. Gynk.*, Leipzig, No. 45, 1902.
5. *Ann. d. Mal. d. org.*, Geato, Ur.
6. *Glasgow Med Journal*, Aug. 1902.
7. *Lancet*, June 13th, 1903.
8. *Scot. Med. and Surg. Journal*, March 1903.
9. *Ann. d. Mal. d. Poreille, du larynx*, Paris, June 1903.
10. *Glasgow Med. Journal*, Aug. 1902.
11. *Glasgow Med. Journal*, Aug. 1903.
12. *Edinburgh Med. Journal*, May 1903.
13. *British Med. Journal*, May 23rd, 1903.
14. *American Journal of Medical Science*, July 1898.
15. *Journal of Amer. Med. Ass.*, Aug. 1903.
16. *Wien. clin. Wochnschr.*, No. 19, 1902.
17. *Annales de la Soc. Méd. Chirurg. de Liege*, 1901.
18. *Brit. Med. Journ.*, Nov. 15th, 1902.
19. *Berlin. klin. Wochnschr.*, No. 24, 1902.
20. *Zeit. f. Tuber. und Keilstat.*, Band iv. Heft 2.
21. *Brit. Med. Journ.*, May 23rd, 1903.
22. *Med. Chir. Journ.*, vol. lxxxiv.
23. *München. med. Wchnschr.*, 1903, No. 1.
24. *Zeit. f. dial. u. physik. Therap.*, Dec. 1902.
25. "Temperature of Phthisis," *Scot. Med. and Surg. Journ.*, Jan. 1901.
26. *Lancet*, March 28th, 1903.
27. *Lancet*, March 28th, 1903.
28. *Revue de Méd.*, March 10th, 1903.
29. *Journal of Tuberculosis*, Jan. 7th, 1903.
30. *Thèse de Paris.*
31. *Lancet*, August 18th, 1903.

SURGERY

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SURGERY OF THE PANCREAS

THE surgical treatment of diseases of the pancreas, until a few years ago practically unknown, has even within the last year received more than usual attention by surgeons, having been stimulated very largely by the work of Robson and Moynihan in England, and that of von Mickulicz-Radecki and Körte in Germany.

The inflammatory conditions affecting the pancreas are becoming more easily recognised, and the effect they may have in causing cystic changes in the pancreas itself, or in giving symptoms of diseases apparently originating in other organs, more particularly the gall-bladder and ovary, has been frequently demonstrated to surgeons and physicians.

An article of some interest, anatomically and pathologically, by von Büngner, in explaining the frequency of concomitant disease of gall-bladder and pancreas, appears in *Beiträge zur klinischen Chirurgie*, June 1903.

He answers the following three questions :—

1. Does the ductus choledochus pass through the substance of the pancreas, or does it pass alongside the head of it?

2. Does the choledochus join the duct of Wirsung, and if so, where?

3. Is the duct of Wirsung a single duct, or does it generally divide into an accessory duct (of Santorini)?

In the examination of 58 bodies, he found that in 55 instances the choledochus ran through the substance of the pancreas; in the remaining 3 cases it ran twice to the duodenal side of (*duodenalwärts*), and once behind the head of, the pancreas.

The duct was in all cases firmly embedded in the substance of the pancreas.

In 57 of the bodies the choledochus and duct of Wirsung opened separately into the duodenum. The pancreatic duct in 3 cases opened above and behind the bile duct.

In 52 the duct of Wirsung was undivided; in the remaining 6 the accessory duct of Santorini being present, opening separately in 4 cases above and in 2 below the duodenal papilla.

From these anatomical facts he draws the following conclusions :—

(*a*) Freeing the common bile duct cannot be accomplished without injuring the pancreas.

(*b*) All affections of the pancreas which lead to shrinking or pathological enlargement of the head of the pancreas constrict not only the duct of Wirsung, but also the bile duct, giving rise to fatty stools, glycosuria, jaundice, bile in the urine.

(*c*) An affection of the one duct pure and simple will not affect the other; as, for instance, a stone at the termination of the common duct will not in the majority of cases interfere with the escape of pancreatic juice from the duct of Wirsung.

Von Mickulicz-Radecki (*Mittheilungen aus den Grenzgebiet der Med. und Chirurgie*, Band xii. Heft 1), in an address delivered before the Congress of American Physicians and Surgeons, gives his experience in sixty cases of pancreatic surgery. His address chiefly dealt with injuries and inflammations of the pancreas, and he ascribes the slow development of pancreatic surgery to various causes.

The infrequency with which the pancreas is injured is due to its hidden and protected position. Its protected position renders the technique of bringing the pancreas to the surface an extremely difficult one. It must be attacked by different routes according to the part of the pancreas which is affected.

The operative methods, according to him, for reaching the pancreas, are two in number, transperitoneal or retroperitoneal—the latter being used in affections of the head or tail of the pancreas—by incisions through the lumbar regions.

The important organs which lie in immediate relation to the pancreas, and the difficulty of diagnosis in pancreatic disease, have prevented progress in its surgery.

He also calls attention to the difficulty of checking hæmorrhage, suture, which is very liable to cause necrosis, being generally required, and to the danger of leakage of the gland secretions into the peritoneal cavity.

Experiments on animals have shown that fat necrosis, pancreatitis, even of a hæmorrhagic type, may be induced by injury. The prognosis in cases of gastic resection is much worse if the pancreas has been injured by separation of adhesions. He records such cases in which he had a mortality of 27.5 per cent. in gastric resections for cancer, where the pancreas remained intact after operation, but a mortality of 70 per cent. was shown in those cases where the tumour had to be freed from the pancreas. The cause of death was mostly peritonitis.

The pancreatic secretion can cause an aseptic peritonitis, as well as rendering the peritoneum more liable to bacterial invasion.

Paralysis of the intestines takes place, causing a rapidly developing intestinal obstruction.

He therefore lays special stress on the importance of preventing the escape of pancreatic secretion. If possible the

injured part should be turned inwards and the peritoneal covering sutured over it. If this is not possible, it should be protected by "tampon drainage" in all cases.

In injuries of the stomach and intestines, where laparotomy has been performed, he considers that death in many cases has resulted from an overlooked injury of the pancreas.

In discussing the inflammatory lesions of the pancreas, he prefers the classification of Robson into acute, subacute and chronic, to that of Fitz into hæmorrhagic, suppurative and gangrenous.

Injury, such as a blow, is followed by a vicious circle, consisting of hæmorrhages, necrosis, digestive changes in the surrounding tissues. The pancreatic ferments play an important rôle in the causation of fat necrosis. The pancreatic duct, like the common bile duct, is easily infected from the duodenum.

Finally, in concluding, he draws attention to three points in considering the etiology of acute pancreatitis:—

1. The slight tendency of pancreatic hæmorrhage to stop spontaneously.

2. The destructive and toxic action of the pancreatic ferments.

3. The ease with which the pancreatic duct may be infected from the duodenum.

An early operation is recommended in acute pancreatitis. He compares it to acute phlegmon, where early incision and drainage is the best treatment.

Chronic pancreatitis often runs a course similar to, and is often mistaken for, pancreatic carcinoma. It is improved and often cured by operative means. Körte, Robson and Opie point out the close relationship between chronic pancreatitis and diseases of the biliary tract. A chronic pancreatitis of the head of the pancreas may closely simulate cholelithiasis by compressing the common bile duct.

Owing to the uncertainty in diagnosing these conditions, operation should always be in the first instance exploratory, first excluding the presence of impacted calculi in the common bile duct, the papilla Vateri, and Wirsung's duct. In the hands of Robson, operation for chronic pancreatitis has proved encouraging.

Mickulicz-Radecki concludes by reviewing 30 cases, of which 10 were pancreatic cysts. In 8 of these incision and drainage was performed, and in 2 excision. All recovered.

Two were cases of subacute pancreatitis, one forming an abscess, and the other giving rise to fat necrosis. Both recovered after operation.

A hæmatoma after contusion was opened and drained

successfully. Fifteen were malignant growths involving the pancreas. Laparotomy was performed seven times, and cholecystenterostomy five times.

Subsequent to the reading of this paper, a case of acute pancreatitis was treated by Dr Porter of Boston, by multiple incision as suggested, to relieve tension, with cure.

OBSTETRICS

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On the Capabilities of the Female Breast (Ueber die Leistungsfähigkeit der weiblichen Milchdrüsen u.s.w.) (Schlossmann, *Monatss. f. Geburtsh. u. Gynaek.*, 1903, Bd. xvii. 1311).—"The further never-resting Science has pushed in the knowledge of woman's milk and its differences from that of other animals, the clearer it has become that no plan of infant feeding can even compare with that of the human breast, and that even the wet-nurse is not on the same plane with the child's own mother." So begins this delightfully ingenuous paper, in which Schlossmann comes to the conclusion that "there is no absolutely general contra-indication to lactation, and we must decide from case to case whether in the pathological condition of the mother her real interest requires the avoidance or cessation of nursing." In the interval between these two propositions is a refreshing discourse on the alleged contra-indications to lactation, in which most of the generally-held notions are crumpled up and cast into the waste-basket.

In the matter of tuberculosis of the mother, Schlossmann takes an extreme position. He states that he has repeatedly seen a tuberculous mother nurse her child without injury to either, and considers that the fattening influence of normal lactation occurs also in the tuberculous and is favourable to them. In four cases he failed even by injection into animals to get any evidence of infectivity in the milk, and this is of course congruent with what we know of the milk of tuberculous cows. In the many cases of early death from tuberculosis in infants which he had seen, he has never found them to be breast-fed throughout. He thus decides that tuberculosis is no absolute contra-indication to the nursing of a child by its mother.

In the choice of a wet-nurse Schlossmann excludes the tuberculous, and to attain security subjects candidates to injection with the old tuberculin, in doses rising, in the absence of reaction, to .03 g.; and it is interesting to note that of 49 so treated during 1902, 31 showed no reaction, 5 slight, and 13 positive. The positive reaction was got in nurses whose history gave no

evidence of personal or family tendency to tuberculosis. Even it a reaction occur, the nurse is not necessarily rejected, but punctilious attention is paid to all the symptoms, swelling of glands, slight redness of pharynx, bronchial catarrh, etc. "From the increase of body-weight, the whole general condition, the repeated examination of the sputum, the urine, and at times also the fæces for tubercle bacilli, from frequent temperature measurement, from observation of night sweats, and from frequent objective examination, we slowly come to a decision whether the person in question, in spite of having reacted to the tuberculin, is to be considered a suitable nurse for a strange child."

For Schlossmann, Mastitis is no absolute contra-indication to further nursing, though he admits at once the duty of seeing that the child does not ingest pus. If the abscess does not open into the milk duct "we can, till the process is ready for incision, let the child to the breast, if we are convinced that the milk is free from leucocytes." The breast is easier when it is emptied. He quotes the case of a primipara of 28, delivered on September 9th, and taking ill on October 12th, with pain in the right breast, and hard deep infiltration. The child was nursed at this breast till the 15th, when fluctuation was found, and the abscess freely opened and plugged. Healing went on slowly, and the milk was exhausted. On November 4th the child was again put to this breast, which yielded 370 g. as compared with the 805 g. of the left.

To illustrate the considerable interval which may elapse, and the breast be still fit for nursing, Schlossmann gives the case of a woman delivered prematurely, and whose breast was first sucked by a strong child on the eighteenth day, mechanical exhaustion having been practised in the interval. He quotes also a case of Budin's where the child had been put out to nurse, and on the thirty-fourth day no milk could be expressed from the mother's breast. The first two days the child got no milk, the next two 5 g. each. The daily yield then rose through 35, 70, 145, 185, 275, 360, 460, to 595 g., when the mother left the clinique with her child. He records also the case of a wet-nurse who, from November 28, 1901 to January 6, 1903, nursed continuously with an average yield of 2009 g. a day, and who put on 18.4 kilo. during the process. The quality of the milk did not deteriorate. According to Schlossmann, the secret of making a good breast is to put a sturdy child to it and to feed the nurse properly. For this his maxim is: "Every nursing woman is allowed what she can enjoy," and he tells an amusing story in illustration of the futility of the traditional nursing diet. A woman came to ask whether she should get a wet-nurse or feed her child by hand; and on his asking why, she

wept and said she could not live any longer as she was doing. He then heard what for three months *die arme Märtyrerin* must eat and drink and must not eat and drink. He regulated her diet by first asking what she had most appetite for in all the world, and she said a salt herring. She had one the same night, and was then fed according to her former habits and her appetite. The milk supply became once more plentiful, and the child and mother throve. "So long as the mother has an appetite the child will thrive."

Schlossmann next attacks the idea that a wet-nurse must have been delivered about the same period as the mother of the child she is to nurse, and concludes his polemic on this point by saying that he has known a case in which, with the best results, the nurse continuously supplied two successive children of the same mother. He then makes an onslaught on the proposition that it is necessary to change the feeding if the child's stools are not normal; and speaking of the doctor who believes in a homogeneous yellow soupy stool and the child who thrives without having such, he says: "When such a doctor meets such a baby there ensues a desperate struggle, in which often enough the child goes under because it was not to be persuaded to render its stools in the desired manner, and after this and that nurse had been tried, was put upon farinaceous food." He reports a recent case where a five months old boy could only take "Cognac and infant food." He had been nursed by his mother and seven nurses in succession, but with all had frequent stools with "undigested albumen." Only when he was given brandy in drop doses and gruel was the physician made happy by the disappearance of the albumen and diarrhœa. Schlossmann, in spite of the horrible weakness, put him again to the breast, only to reproduce the former unideal stool. In spite of the mother's demand for a change of nurse or diet, he let him continue, with the result that he gained 380 g. in the first week, 360 in the second, and never less than 200 g. a week after, but to this day has never had a homogeneous ideal stool. "Look first to the child and then to the stool."

DISEASES OF CHILDREN

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ON THE VALUE OF SUBCUTANEOUS AND RECTAL INJECTIONS OF SALINE SOLUTION IN THE TREATMENT OF PREMATURE AND OTHERWISE WEAKLY INFANTS

AMONG the many advances which practical medicine has made during the last fifty years, not the least striking and important

are those relating to the tending and nurture of premature and otherwise weakly new-born children. At the best, the mortality among such children is bound to be high; but when carefully treated by modern methods they certainly have a far better chance of survival now than they used to have twenty years ago. What follows is mainly a summary of a recent thesis by M. Pery of Bordeaux[1] on this subject.

Two serious dangers—cold and lack of nourishment—are always threatening these frail infants with death, and the great problem which we have to face in their treatment is how to keep them at once properly warm and sufficiently nourished. Endeavours have been made with a considerable measure of success to meet these two indications by the introduction of incubators and by the use of "forced feeding" or gavage.

The use of incubators, tried first by Denuce of Bordeaux in 1857, was brought prominently under the notice of the medical public by Professor Tarnier, who introduced them into the Paris Maternité in 1880. In spite of the many improvements which have since been made in their construction, the simple form of *couveuse* employed by Tarnier is still preferred by many. In it the child is generally kept at a temperature of from 86° to 93° F., according to the degree of its debility, although Budin regards 77° F. as sufficiently warm, except in special cases.

In some cases the forced feeding is necessary, because the infants are unable to suck, and may not even be able to swallow properly. In others, it has to be used because of vomiting. For it is found that in these, as in older patients, milk will often be retained if introduced through a tube, when it would be at once rejected were it taken from a bottle or spoon. In the first case, when the power of sucking only is at fault, the difficulty may be got over by having the mother's milk dropped slowly into the baby's mouth, or by having him fed from a spoon or glass. In the cases where swallowing is interfered with, the child must be fed through a catheter passed into the stomach. It is, of course, essential that the amount of nourishment given should be most carefully regulated, and especially that too much be not used.

Although the use of incubators and of gavage are the main points in the treatment of premature and debilitated infants, various other details are essential in a secondary degree. The most recently introduced and one of the most important of the auxiliary measures is the employment of injections of artificial serum either subcutaneously or into the rectum. It is the use of rectal injections which M. Pery specially advocates in his thesis.

[1] "De la débilité, congénitale et acquise, des nouveau-nés," par Louis J. M. J. Pery, *Thèse de Bordeaux*, 1903.

The main effect of the saline injections seems, however, to be the same in whichever way it is introduced.

The Technique of the Injections.

(*a*) The *subcutaneous injections* are easily made by means of an ordinary hypodermic syringe, or, if more fluid be required, with an anti-toxin syringe. In this country a glass filler with an indiarubber tube is generally used for this purpose. The strictest antiseptic precautions must, of course, be observed, and the fluid introduced very slowly. The buttock, back, flank and abdominal walls are the favourite situations for the injection, but the thighs may also be used. A little massage after the operation is useful in helping absorption. By the end of an hour, if not sooner, the fluid will have disappeared. The process may be repeated twice, or oftener, in the day. For subcutaneous use, M. Pery prefers Hayem's artificial serum, but simple ¾ per cent. saline solution does quite well. He gives from 3 to 5½ drachms of this in the day, administered in two doses by either two or four punctures. In cases of severe summer diarrhœa, with great loss of fluid, larger amounts are advisable, and M. Guinon has given as much as 3½ to 5¼ oz. at a time.

The process of hypodermic injection is therefore very simple, and it is frequently most useful. It has the great advantage that complete absorption of the fluid used is assured. Yet in very young and feeble children there are certain serious drawbacks. For one thing, the necessary punctures must not be made except by a medical man, or at least by someone who is practised in aseptic methods. Otherwise things will soon go wrong. In debilitated infants, also, the feeble circulation in the skin must be borne in mind, for their tendency to serious forms of inflammation is very great, and the occurrence of lymphangitis or abscess would form a very grave complication. If proper precautions are taken, such occurrences are, of course, very rare, but they are so serious when they do occur that they form a strong argument against the frequent use of such injections. The pain that may be caused is another reason against them. This is sometimes so slight that the baby scarcely awakes from its drowsiness; but occasionally it is severe, and causes great agitation, and even convulsions.

(*b*) The *rectal injections*, if properly given, are not painful; and they have the further advantages that the means of giving them (catheter, syringe, filler, etc.) are always at hand, that the fluid used is simple ¾ per cent. salt solution, and that they can be managed quite well by an ordinarily intelligent parent. They are administered in the following way. The child,

partially undressed, is laid on his back or side. The catheter (about No. 7) is then introduced into the rectum very gently for about 2 inches. The salt solution, which has been brought carefully to 98·6° F. in a water-bath, is now drawn into the syringe and injected very slowly through the catheter. When the fluid has all found its way in, which it does without difficulty, the catheter is gently withdrawn and the buttocks held together tightly for one or two minutes. This last little manœuvre greatly assists in retaining the fluid. Should the injection be returned, it is to be given again at once. If the fluid is either too hot or too cold this may account for its rejection. The syringe and catheter used do not require to be sterilised, if they are only thoroughly clean.

The right dose of the saline solution is much harder to fix for rectal than for hypodermic injections, because it depends so much on the degree of sensitiveness of the particular child. The mere capacity of the bowel is no guide. While various writers have advised different amounts, M. Pery has found that from 5½ to 7 drachms at a time are usually retained as readily as half these amounts. The number of enemata, per diem, must also vary according to the individual patient's state. In order that the injections should do good, they must, of course, be retained long enough to be absorbed, and the occasional difficulty of this, in some cases, forms the main weak point of the treatment. Some babies cannot be got to retain the injections at all. When this is so, recourse must be had to hypodermic infusions. There seems to be no real ground for the fear that the repetition of the enemata might set up irritation in the rectal mucous membrane.

The Physiological Effects of Saline Injections, by Skin or Bowel, in the Healthy Child.

In either case, the effects are distinctly those of a stimulant at the time; but, when repeatedly given, they have also a more permanent sustaining action. This double effect reminds one of the corresponding double action of alcohol. After the injection the heart's action is strengthened and the circulation improved; respiration and blood formation are stimulated, and all the secretions augmented. Heat-production also becomes greater, there is increased excretion of urea, with diuresis, and the weight goes up steadily. Large injections have been shown by Hayem to have a distinctly hæmostatic effect. They also aid powerfully in the elimination of micro-organismal toxins, and are useful under various conditions, in helping to wash noxious matters out of the system.

Pathological Effects.

While some writers seem to have seen nothing but good result from the injections, various bad effects have been noted by others. Sometimes, for example, a state of apparent overstimulation is produced, which shows itself by excitement, undue tendency to cry on slight occasion, and sleeplessness. In other cases, a condition of general dropsy is produced, affecting not only the eyelids and extremities, but even, it is said, in rare instances, the lungs. A rise of temperature also is sometimes seen after each hypodermic injection, especially when they are first given.

All these unpleasant results may be proved to be due to too large or too frequent injections having been given. Hutinel, however, has drawn attention to a danger of another kind. He points out that in children with tubercular manifestations (especially external lesions) saline injections are prone to set up peritubercular inflammation, accompanied by a more or less prolonged pyrexia. In hæmorrhagic cases, also, the introduction of the needle may give rise to subcutaneous bleeding.

Therapeutic Indications.

These are numerous, and the following are perhaps among the most important.

(1) *In merely premature and weakly babies* who, though suffering from no special disease, threaten to die from sheer debility; or those whose light weight and great general delicacy cause anxiety for their future. Such infants often require only to be tided over the critical period of their weakness and their development will then, in all probability, proceed in a perfectly normal way. The use of an incubator and forced feeding are the great means of restoring such babies, and nothing can take their place. Saline injections, however, especially per rectum, form an auxiliary prophylactic measure of proved value, and their use must not be put off until an alarming fall of temperature, or digestive disturbances, or continued torpor threaten the child's life. It is advisable, rather, that the injections shall be started within a day or two of birth. Even as little as two or three teaspoonfuls injected into the bowel night and morning are said to exert a tonic effect and make the infant brighter and less drowsy. At the same time they are also noticed to take their food better after them and to gain more weight. The children are thus put in a position to resist more successfully such dangers as they are likely to incur. The experience of Maternity Hospitals, where saline injections have been employed as a routine for such babies, are very striking. Thus, it

was found at Marseilles that the number of deaths among them fell from thirty-six to six in a year. Rectal injections, even if they can do no good, can at least do no harm. Hypodermic injection, however, is better reserved for special cases and for those where enemata cannot be retained.

(2) *In weakly infants who are also diseased* the injections are even more valuable. Thus, in some disorders of the alimentary tract (dyspepsia, thrush, jaundice, etc.), small saline injections have a tonic effect, and strengthen the body to overcome the disease. More copious injections are specially useful in some cases of vomiting and diarrhœa, because they not only compensate for the loss of fluid which occurs, but also aid in the elimination of the toxins. Cases of disease of the skin, of the lungs, and of other parts, are benefited by the general tonic effect of the injections.

(3) *In secondary* (*accidental*) *debility* they are also useful. Here the conditions are somewhat different, and often more favourable. For, instead of having to do with an organism premature, incompletely developed, and on that account with abnormally weak powers of resistance, we are dealing with one which has probably thriven well *in utero* till the full time, and is only prevented by recent misfortune (birth-injury, infection or hæmorrhage) from developing normally.

In cases of *birth-injury* the treatment by injection is of course only applicable after all the ordinary means of resuscitating the infant have been tried. At first, during the period of apparent death, it is of no use; but in those cases which recover so far, and then remain in a torpid collapsed condition in spite of everything we can do, it is certainly worth trying. The injection may supply just the amount of stimulus which is needed.

Full-time, well-grown, new-born children, who are weakened by any sort of *infective process*, have a much greater power of rapid recovery than premature babies. In them, therefore, the saline injections are correspondingly more efficacious. M. Pery recommends 5 or 6 drachms to be given by rectum two or three times a day.

Hæmorrhage in new-born children forms another important indication. These cases may be due to a form of infection or to a diathesis. They are often very alarming, as the effect of the loss of blood on the general strength is most marked. In bad cases great weakness and pallor set in rapidly, and in a very short time the child may die in a state of collapse.

In treating such cases, we have not only to stop the bleeding, but to do what we can to replace the blood lost, and to restore the infant's warmth and vigour. Special treat-

ment may be applied to fulfil the first of these indications, such as the administration of ergot or adrenalin, or, what is better, the subcutaneous injection of gelatinised salt solution. From 3 to 5½ drachms of a 2 per cent. solution of gelatine may be used and repeated if necessary. It is not yet known whether a rectal injection of gelatine would do as well. The great drawback to the subcutaneous injections of gelatine is the fact that tetanus has followed in a number of cases. Although this is rare, it is too serious a matter to be ignored. Simple saline injections have not this disadvantage, and are likewise strongly hæmostatic; they have also the advantage of making up for the fluid of the blood lost, and thus fulfilling at the same time the second indication. Rectal injections are very useful, and 4 or 5 oz. may be given six or seven times a day. The salt solution has also a favourable effect on the depression of temperature and on the general strength.

(4) *In the debility of older babies* saline injections may also, under various of the circumstances alluded to above, be most helpful. In conclusion, it may be said that in the use of saline, subcutaneous and rectal injections, we possess a valuable therapeutic measure, which may, at times, do great service in emergencies of various kinds.

PSYCHIATRY

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GENERAL PARALYSIS

ITS NATURE.—Ten years ago there were two main theories prevalent in the country as to the nature of General Paralysis of the Insane. According to the *Degenerative Theory* as upheld by Clouston, who approached the subject mainly from the clinical standpoint, general paralysis was essentially an intrinsic and progressive degeneration of the higher cerebral nerve elements which subserve mind, analogous to a premature senility, and brought on by habits of excessive wear and tear, the most favourable combination of factors being sexual excess, intemperance in alcohol, and mental and physical overwork. According to the *Inflammatory Theory* as upheld by Bevan Lewis, who approached the subject mainly from the pathological aspect, general paralysis was primarily and essentially an inflammation not of the nerve elements but of the vascular structures, beginning in the arterioles of the pia-arachnoid and

spreading to those of the cortex, and commencing as a periarteritis, with accompanying hyperplasia and fibrosis of the "lymph connective" tissues, the cortical nerve elements meanwhile undergoing degeneration and atrophy in consequence of, and secondary to, the vascular disturbance of their nutrition. According to the Degenerative Theory, the periarteritis, hyperplasia and fibrosis present in the disease were regarded as secondary to the changes in the nervous structures, and were attributed to an irritation by the products of the nerve degeneration.

During the last ten years the views of Continental authorities as to the rôle of syphilis in general paralysis, and of the intoxications generally in the production of insanity, have considerably influenced our conceptions of the pathogenesis of general paralysis. And yet when we look at the two rival theories of the day, the *Syphilitic Theory* as championed in this country by Mott, and the *Toxæmic Theory* as advocated mainly by Ford Robertson, we still recognise the degenerative and inflammatory theories of a decade ago, but under different garbs and different interpretations, the chief difference from the older theories being that the new ones both regard general paralysis as a toxic disease.

According to Mott, general paralysis is essentially and primarily an inherent degeneration of the neuron; but it is not a simple premature senile degeneration due to excessive wear and tear; it is in the great majority of cases, if not in all, a specific degeneration due to a latent syphilitic taint in the neurons of the host, in consequence of which they succumb in a special way to any undue stress in their environment. In fact, if for the "sexual excess" factor of the Degenerative Theory we substitute "syphilis," we practically state the Syphilitic Theory, according to which general paralysis is a metasyphilitic or parasyphilitic degeneration due to latent syphilis *plus* stress. The syphilitic virus is believed to have an affinity for, and to impair the vitality of the bioplasm of the neurons and so to lessen their durability or expectation of life, in consequence of which they die before their time, and progressively, under the stress of environmental factors, which in an unsyphilised person would be successfully resisted or at worst would end in a simple neurasthenia. The well-known agency of syphilis in the production of sterility, abortions and ante-natal deaths, strongly indicates the malign potency of the syphilitic poison on the bioplasm or living protoplasm of cells in general. Similarly, the well recognised lesions of tertiary syphilis, the gummata and arteritis which may arise in any part of the body years after the original infection, suggest a perpetual lowering of

vitality by the original virus of the continuous living protoplasm of tissues, which consequently in later years, perhaps under the influence of a local stress, undergo premature dissolution and death. In view of the frequency of a history of syphilis in general paralysis, combined with this special power of syphilis to perpetuate its morbific influence into distant years, it is therefore not unreasonable to suppose that the syphilitic virus has a devitalising influence on the bioplasm of the neurons, and that the neurons thus tainted will succumb to stress before their time. Finally, Krafft-Ebing's failure to produce syphilis in eight general paralytics by inoculation with the virus of a hard chancre makes a strong case for the syphilitic theory of general paralysis. Various objections, however, have been raised to the theory. Thus, general paralytics have been known to contract syphilis after the onset of their illness; but even syphilitics themselves have been known to contract a subsequent hard chancre. One attack of syphilis does not confer absolute immunity from future primary syphilis, any more than is the case with other infections, and so the fact that a general paralytic takes syphilis does not exclude a previous history of the disease. At the same time the objection is a strong one, because if we are to regard a general paralytic as a meta-syphilitic, he is virtually an uncured syphilitic, and therefore should not contract syphilis; and the fact that a general paralytic can contract syphilis should indicate that syphilis is not an essential etiological factor in the disease. Again, it has been said that there are many who take syphilis, but only a few become general paralytics; to which it may be answered that in the great majority of cases the syphilitic virus expends itself in secondary and tertiary manifestations, and that in general paralysis it is common to find that the earlier manifestations of syphilis have been slight. Again, the success of the potassium iodide treatment in tertiary syphilis, *e.g.* gumma, as compared with its failure in general paralysis, has been put forward as an objection; but a moment's consideration will show that, quite apart from the question of the larger scope for the utility of a deobstruent in the case of the gumma, in general paralysis we have to do with decaying and dying neurons, which, once dead, cannot be regenerated, or replaced by functional substitutes. The only chance of effective treatment in general paralysis, as we understand it, is early diagnosis and the adoption of means which will arrest its progressive course. Next to the fact that a general paralytic can contract syphilis, the most potent objection to the syphilitic theory is that in many cases of general paralysis no history of syphilis can be obtained, even after most searching enquiries. It has been suggested that in such cases the "taint'

has been inherited, an opinion which derives some support from the fact that cases of juvenile general paralysis with no symptoms of congenital syphilis have been traced to syphilitic parents. Taking the etiological and clinical evidence as it stands, the writer considers that syphilis, though a very common precursor of general paralysis, is not essential to its production in all cases; that premature and progressive degeneration of the neurons may arise, independently of previous syphilis, from stress and other causes; and that in all probability general paralysis, though proximately in every case a neuronic degeneration, includes several varieties, *e.g.* degenerative, syphilitic, toxæmic, although the clinical and histological observations on these points are as yet incomplete. Degenerated neurons, however, form only part of the histological picture in general paralysis. The changes in the neuroglia, blood-vessels, and lymphatics, also need to be accounted for satisfactorily by the degenerative and syphilitic theories. As regards the neuroglial changes, the explanation which would seem to satisfy the requirements of all theories best and to be least objected to, is the view that the neuroglia, in virtue of its being the connective tissue of the nervous system, makes an effort to repair the parenchymatous lesions going on, and that the hyperplasia and fibrillation that occur are comparable to Nature's mode of healing lesions in other highly endowed organs. This is the most innocent interpretation that can be put on the neuroglial overgrowth in general paralytic brains, but of course a more sinister meaning will be attached to the process by those who compare it to the interstitial fibrosis or cirrhosis or sclerosis met with in other viscera in syphilitics, alcoholics, and others. It is in the explanation of the vascular changes, however, that the degenerative and syphilitic theories meet with more difficulty. The older view of the degenerative theory that the periarteritis is secondary to a simple irritation of the products of nerve degeneration is hardly tenable, in view of the fact that no such distinctive periarteritis occurs in cases of acute severe insanity in which the neuronic degeneration is more intense and more rapid than in general paralysis. To meet this difficulty two loopholes of escape are open to those who hold the syphilitic theory. It may be put forward that the periarteritis in general paralysis resembles in nature the "gummatous periarteritis" which, according to Osler ("Principles and Practice of Medicine," 4th edition, p. 250, 1901), is specially prone to affect the smaller arteries of the brain, and "is specific and distinctive of syphilis." Or it may be held that in general paralysis the products of neuronic degeneration are more irritant in consequence of their syphilitic taint, and so are more apt to set up inflammatory changes in the lymphatic sheaths of the

vessels; and in this connection it may be noted that in very rapid cases of general paralysis the periarteritis is a very pronounced feature. The degree of periarteritis varies in different cases, and it would be interesting to know whether in those cases of general paralysis in which a history of syphilis cannot be substantiated, the periarteritis is less marked than in the syphilitic cases. Mott (*Arch. of Neurol.*, vol. ii. p. 295, Macmillan & Co., Lond., 1903), who evidently appreciates the difficulty of explaining the vascular changes on a primary neuronic degeneration theory, states that "the most constant and striking change which can be observed in progressive paralysis is afforded by the appearances presented by the vessels. . . . The more acute the symptoms and the more rapid the progress of the case, the more obvious is this vascular change. What is it? What does it signify?"

Mott does not call it a periarteritis. He describes the vascular change as consisting in an accumulation of the "Plasma cells of Marscholko"—cells apparently derived from fixed tissue cells or lymphocytes or endothelial cells—and he regards the plasma cells as almost pathognomonic of general paralysis, and their abundance as being directly proportional to the amount and intensity of the neuronic irritation and degeneration and as indicating the formation of an irritant toxin in the blood, and so he postulates the existence in the blood of a latent toxin of syphilis which unites with the products of neuron degeneration to form a neuro-lysin which sets up the irritative vascular changes. Mott's hypothesis is by no means convincing, and it would seem simpler to explain the irritative vascular phenomena as due to a poisoning by the more noxious products of degeneration of neurons, which, in accordance with the syphilitic theory, have been previously tainted with the syphilitic virus and are now breaking down under the influence of stress. Whatever may be the way in which the vascular change begins, once it is started it interferes with the proper elimination of metabolic waste products from the decaying neuron, and so a "vicious circle" is set up accelerating its dissolution. According to the older *Inflammatory Theory* these vascular changes in general paralysis are primary, and bring about the degeneration of the nerve elements. So also by the *Toxæmic Theory*, as originally stated by Angiolella, the vascular lesion is regarded as the primary and essential one, although a direct action of the toxin on the neuron is not denied. Ford Robertson has specially emphasised the importance of the capillary lesion in general paralysis. He describes it as consisting in "proliferation of the cellular elements of both intima and adventitia, or in hyaline or slightly granular swelling of the wall, the one

being the proliferative and the other the degenerative phase of the same lesion," and he considers this capillary lesion "the one essential tissue-alteration in general paralysis" ("Path. of Ment. Dis.," p. 350, Clay, Edin. 1900). It is met with in the earliest cases of general paralysis in the capillaries of the cortex, especially of the outermost layer, and it soon becomes generalised throughout the brain, but it is limited to the central nervous system. Ford Robertson attributes this capillary change to a general toxic condition of the blood, and explains its limitation to the central nervous organs as due to a selective affinity of the toxin for the adventitial coat, which is only met with in the capillaries of the central nervous system and consists of elastic fibres of special character.

The capillaries of the nerve centres are thus unique in resembling the minute arterioles of other organs. Further, it is found that similar changes occur in general paralysis in the arteries of such non-nervous organs as the kidneys and liver, this being further evidence of a generalised blood toxic condition. Ford Robertson does not consider that syphilis, alcoholism, plumbism, and the other toxic factors of general paralysis are sufficient to account for this chronic toxæmia, though we see no reason why these poisons may not directly affect both vessels and nerve cells in the brain or elsewhere. In 1901 he and Lewis Bruce (*Brit. Med. Journ.*, June 1901) promulgated the view that general paralysis was a chronic toxæmia of gastro-intestinal origin, and due to bacteria, especially of the "colon group." Bruce's views were based on observations as to the frequency of gastro-intestinal symptoms in general paralytics, the occurrence of a hyperleucocytosis previous to, and at the onset of, periods of remission in the disease, and the production of remission in two progressive cases by the subcutaneous injection of serum from another patient in a state of remission, this serum further having an agglutinative action on cultures of bacillus coli. Ford Robertson's views were based on the observation of marked chronic catarrh of the gastro-intestine in general paralysis associated with the presence of many various bacteria, especially those of the colon group. He considers that the catarrh is due to an irritation by the bacteria present, and that the bacteria flourish owing to a breakdown of the forces which ordinarily inhibit their growth in the alimentary tract; and to explain this breakdown he postulates an exhaustion of the leucoblastic function of the bone marrow by the syphilis, alcoholism and similar factors which "predispose" in this way to the occurrence of this bacterial gastro-intestinal toxæmia. Does not the occurrence of marked hyperleucocytosis in general paralysis to some extent negative the idea of the exhaustion of the bone

marrow? In more recent papers Ford Robertson, in conjunction with M'Rae, Jeffrey and Shennan (*Rev. Neur. and Psych.*, April, May and July 1903), has shown that the toxæmia also occurs from the respiratory tract, and that the bacteria concerned do not belong to the colon group but are represented mainly by a diphtheroid bacillus, which is responsible for the characteristic paretic symptoms of general paralysis. In the authors' words (*Rev. Neur. and Psych.*, May 1903) "general paralysis is the result of a chronic toxic infection from the respiratory and alimentary tracts, permitted by general and local impairment of the defences against bacteria, and dependent upon the excessive development of various bacterial forms, but especially upon the abundant growth of a Klebs-Löffler bacillus of modified virulence, which gives the disease its special paralytic character." Further, this diphtheroid bacillus can produce a fatal nervous disease in rats, with post-mortem changes similar to those in general paralytic brains. It is to be noticed, however, that this bacillus has been observed by the authors in other forms of insanity besides general paralysis, though not so abundantly as in the latter. Against the view of its pathogenetic influence in general paralysis it may be stated that anti-diphtheritic serum does not stay the course of the disease, as has been verified also by the writer and others at Ayr Asylum, who have also found no distinct remissions to accrue from the alimentary administration of yeast, a therapeutic agent with distinct bactericidal properties. Again, normal or general paralytic serum, according to the above authors, fails to agglutinate the diphtheroid bacillus; whereas, if the latter has a pathogenetic action in general paralysis, we should expect to find it agglutinated by serum taken during a remission. Finally, the fact that in the few cases in which the diphtheroid bacillus has been found in the general paralytic brain, it has been usually associated with other organisms, indicates a terminal infection rather than a specific pathogenetic action. The undoubted existence of cerebral trophic function, combined with the undoubted evidence of its diminution in ordinary cerebral hemiplegias, surely indicates that in general paralysis the trophic function of the brain fails with the others. This lowering of trophic power has always been regarded as one of the marked clinical features of general paralysis, and may readily render the body a veritable incubator for various species of bacteria, whose presence, therefore, may not improbably signify merely a terminal infection.

Symptomatology and Diagnosis. — Marandon de Montyel records certain observations on Salivation (*Gazette des Hopitaux*, Sept. 30, Oct. 2, 1902) and Perspiration (*La Presse Médicale*, Jan. 31, 1903) in General Paralysis. *Salivation*, usually of

pronounced degree, occurs in about 20 per cent. of cases, especially in those of melancholic type and syphilitic origin, and under the age of thirty. It is most common in the second stage of the disease, and lasts usually five months. *Perspiration*, always pronounced, occurs in about 10 per cent. of general paralytics, especially in those of melancholic type, and in the younger cases. It is most common in the second stage, comes and goes suddenly, and generally lasts two months. These results are much in accord with the experience of other alienists.

The pupillary reactions have always been regarded as of the greatest significance in the diagnosis of general paralysis. Bevan Lewis considers that the tendency of the pupil to oscillate and then dilate during focal illumination by bright light is the earliest augury of coming general paralysis ("Ment. Dis.," p. 314, 2nd edition, 1899). Reflex rigidity of the pupils to light and pain, combined with any other characteristic symptom of general paralysis, is usually sufficient to make a diagnosis. Ed. Toulouse and Cl. Vurpas (*Le Progrès Médicale*, Aug. 15, 1903) draw attention to the mode of reaction of the pupils to atropine and eserine (1 in 10,000 solution) as an early sign of general paralysis, and show that the total duration of the dilatation by atropine or of the contraction by eserine, from the time that a drop of the solution is put on the eye till the pupil (as measured with a pupillometer) finally regains its original size, is about three times longer than that in healthy subjects.

New Books and New Editions

Manual of Medicine. By THOMAS KIRKPATRICK MONRO, M.A., M.D. Pp. xx.+901, 38 Illustrations. London: Baillière, Tindall & Cox. 1903. Price 15s. net.

THERE is not much danger that the modern practitioner of medicine will expose himself to the taunt implied in the venerable adage familiar to schoolboys, "*Cave hominem unius libri!*" What with text-books, manuals and cyclopædias of medicine, our book shelves groan with the embarrassing wealth provided by ardent authors and publishers. When one eliminates the common basis of knowledge contained therein, passed on, as it must be, from one compiler to another, there remains in the majority much that bears the stamp of original observation or first-hand experience. This is precious, worth trouble to come at. The student, that is, the under-graduate, must, however, keep pretty much to one book on each of his

many subjects. He cannot afford to dissipate his energy; he is compelled by our examination system to cram. What is the best text-book, then, for such a purpose? The choice seems to lie between such a manual as the one under review and a larger book in one or two volumes, of which Osler's, Gibson's, or Fagge's may be taken as admirable examples. Most students, by a free use of the pencil, can reduce one of those latter works to what is practically a smaller book. They read the whole at least once, their minds are impressed by the interesting cases used in illustration, and then in a second or third reading they make special efforts to commit to memory the marked passages —such, on the whole, seems to the reviewer the best way of getting up the subject. Others, however, prefer to have the condensation made for them, and to them this manual, one of the publishers' "University Series," can be heartily recommended. Dr Monro gives a careful, accurate, well-digested account of the various medical ailments, including diseases of the skin. The illustrations are mainly temperature charts and pulse tracings, but there are also useful diagrams of the circulatory and nervous systems. Room has been found for trustworthy accounts of methods of physical diagnosis. The only criticism one might make is that so much has had to be omitted, but by the nature of the case this criticism would be unfair. The essentials are given, and the printing and general get-up of the book leave nothing to be desired.

Diseases of the Heart and Arterial System. Designed to be a practical presentation of the subject for the use of students and practitioners of medicine. By ROBERT H. BABCOCK, A.M., M.D. 8vo, pp. xxi. + 853, with three coloured plates and one hundred and thirty-nine illustrations. New York and London: D. Appleton & Company. 1903. Price 25s.

IT is a long cry to the days of Sénac, and in the century and a half that have elapsed since the appearance of his pioneer and classical monograph on Diseases of the Heart, many of the foremost masters in Medicine have essayed a similar task. Even within recent years some excellent works have been dedicated to this subject. It goes without saying, therefore, that it requires no small degree of confidence for anyone to make a new attempt in a field so carefully gleaned already. But Dr Babcock, fortified by the calm assurance of modesty, has not been deterred. He does not pose as a master. He has no theories to elaborate. He expressly disavows originality, and aims rather at giving the student of to-day the cardiac pathology

of to-day and the methods of treatment now in use. One claim, and one only, he advances, and that is, that his book is more practical than many similar ones.

It may be said at once that Dr Babcock has produced an excellent treatise. No one can peruse it without seeing that the author knows what he is talking about; that he has tried all things and holds by that which he has found good. His is no parrot-cry, no vain repetition of the statements of others; and even where he confesses to absolute want of experience, he shows that he has completely assimilated the facts and can state and arrange them clearly and succinctly.

In the preface the author declares that he has "endeavoured to present the subject in a simple, practical fashion that would suit the needs of the student and practitioner of medicine." It is but strict justice to state that he has succeeded so well in his task that the book will take its place in the highest rank of works of its class. The claim to a special practical character for his treatise is amply substantiated. Thus, the treatment of valvular disease is detailed in three chapters, and extends over nearly 100 pages, and the therapeutics of other morbid conditions receives similar consideration. The opening chapter sums up the anatomical and physiological questions necessary for the proper understanding of cardiac disease, and considerable space is given to methods of examination. In an appendix more novel and less ordinary methods are discussed—the X-rays, the tonometer, and the sphygmograph.

It is obvious that in a work of this description, detailed criticism would be out of place. Beyond the general statements we have made, we may, however, be permitted to add a few remarks. Scotsmen will notice with pleasure that the opinions of their fellow-countrymen who have distinguished themselves in this region of pathology, receive their due weight. Indeed G. A. Gibson almost heads the list as regards number of references.

In another direction, it is interesting to observe that the game of golf has made such headway in America that the author finds himself forced to give minute directions as to how it should be played in different stages of heart trouble. Dr Babcock believes in making use of the very latest remedy, provided that it is efficacious, but he has found nothing to displace morphine and strychnine in his affections. His faith, too, in digitalis is firm and unfaltering; for him it has a place above and before all its congeners, and he depends entirely on a fat-free tincture and the freshly made infusion. In this connection reference is made to the little known property of the drug in causing delirium and hallucinations. Purgation, indeed heroic

purgation, for the purpose of relieving congested viscera and easing the heart in cardiac inadequacy, finds a strong exponent in our author. Resistance exercises and Nauheim baths are lauded, but with calmness and discrimination, and the former are credited with the wider range of usefulness. There is, however, a statement made and again repeated, against which we must earnestly and emphatically protest. It is an advocacy of euthanasia. "I certainly should not hesitate," says our author, "when the end is near, to inject a dose that would hasten the patient's death." It is not necessary to argue the question from an ethical or moral standpoint; expediency alone is sufficient to condemn it. For a work of this kind falls into the hands of the many, and the advice might be acted upon by those whose diagnostic acumen is none of the clearest and whose intentions might not be above dispute.

With regard to the outward presentment of the volume, it remains to be said that the printing is clear and fairly free from errors. There are many illustrations, mostly original, but the photographs, as a rule, show very inadequately the conditions they are meant to depict. The style employed is clear and without involvement. One is always sure of what the author means to say. There is a particular charm in the manner in which cases are introduced and related. They are usually interesting, sometimes indeed romantic, and always apt and illustrative. They form a very special feature of the book. Although we are spared the eccentricities of Yankee orthography the author has some personal peculiarities. For instance, the partition between the right and left sides of the heart is never referred to except as the "saeptum." Then there is an index of authors which is absolutely worthless, as there are no references to their works. As to the index proper, it must be dismissed as hopelessly, indeed ridiculously inadequate.

But these defects, and we have enumerated nearly them all, relate almost entirely to the outward form or body of the treatise and can be remedied in a future edition. The soul of the work is worthy of the highest praise, and the book can be cordially recommended as an excellent presentation of the very latest position of the subject with which it deals.

Tuberculosis. By NORMAN BRIDGE. Philadelphia, New York and London: W. B. Saunders & Co. 1903.

THIS work is evidently that of a painstaking and careful observer who presents his views with much originality. The results of personal experience are always valued; and it is

this ground—the essentially personal note which pervades this work—that we recommend it to the profession.

It is noteworthy that the writer supports the view, by no means now universally adopted, that decolorisation by alcohol enables one to distinguish between the smegma and the tubercle bacillus. The chapter upon diagnosis will prove a very instructive one to British readers, though the writer does not display any acquaintance with the work which has been done both north and south of the Tweed, on the value of temperature and Röntgen rays in this connection. He has a good deal that is new to tell us on the weapons which a careful study of cough and posture add to our diagnostic armamentarium. The treatment of physical diagnosis is extremely able and must prove helpful to many; and statistics have been handled in such a way as to show that tuberculosis no longer accounts for 14¼% of all deaths, but that that figure has fallen to 11%.

Professor Bridge maintains that, in the treatment of tuberculosis, cold climates have advantages over warm climates, and a strict and carefully regulated regime over both. His view that altitude does not favour the production of hæmorrhage cannot be generally accepted. The practice of producing an artificial pneumothorax in order to rest a localised lesion is, we find, resuscitated and advocated under the new designation of Murphy's method. Notwithstanding the fact that the title of the book is more pretentious than the handling of the subject warrants, in so far as it completely ignores the whole field of surgical tuberculosis, we cordially recommend the book to the members of the medical profession at large.

The Diagnosis and Modern Treatment of Pulmonary Consumption. By A. LATHAM. London: Baillière, Tindall & Cox. 1903.

THIS book is composed partly of a series of articles which have appeared in the medical press during the past few years, and partly of material which may be found in the author's prize essay published six months ago. Those who are unacquainted with the essay will find, in the work under consideration, profitable and instructive reading.

Referring to the defects first, one finds a surprisingly large measure of support given to the inferences to be drawn from Heron's work on "Tuberculin as a Diagnostic." Dr Latham ought to have been aware of the fact that Heron has largely resile[illegible]ion he took up two years ago, and if he use[illegible]does so now with extreme caution. The

various forms of apparatus to obtain differential pressure are described, and the effects and uses of such pressure are detailed. The author has observed numerous cases of emphysema in which good results were obtained by expiration into rarified air. The first part of the work closes with a description of respiratory gymnastics, the value of which is best manifested in phthisis and convalescence from pneumonia.

The second part of the work deals with inhalation methods and therapy — the uses of oxygen, ozonised air, nitrogen as employed practically at Lippspringe and Paderborn, formaldehyde, fumes, vapours, the apparatus for their administration, atomisation, and the inhalation and insufflation of powders. The book is throughout excellently illustrated and closes with a good index.

The chief value of the work is that it brings before the reader therapeutic measures which are perhaps not sufficiently appreciated in this country, and the book will be read with interest by many.

The Pocket Therapist, a Dictionary of Disease and its Treatment. Being a concise manual of modern treatment, and an aid to memory for students and practitioners. By THOMAS STRETCH DOWSE, M.D. Abd., F.R.C.P.Ed., etc., etc. Third edition, revised and enlarged. Pages 411. Bristol: John Wright & Co. 1903. Price 6s. 6d. nett, or interleaved 8s. 6d. nett.

THIS will be found a most useful manual for students in visiting patients from dispensaries, and even the busy practitioner may find it advantageous to consult it. The book is of a convenient size and may easily be carried in the pocket.

This third edition is enlarged and otherwise improved.

Practical Pharmacy and Dispensing for Students of Medicine. Being the course in use at St Bartholomew's Hospital. By JAMES CALVERT, B.A., B.Sc., M.D., Fellow of the Royal College of Physicians, Lecturer on Materia Medica, Pharmacology and Therapeutics to St. Bartholomew's Hospital. Second edition. Pages 110. London: H. K. Lewis. 1903. Price 4s. 6d.

THIS work is divided into two parts. I. Practical Pharmacy; II. Prescribing. This is an excellent manual for students, and

one which we can highly recommend, containing as it does in brief space, and in succinct and intelligible language, the great principles of practical pharmacy and prescribing.

Lectures on Massage and Electricity in the Treatment of Disease. By THOMAS STRETCH DOWSE, M.D., F.R.C.P. Fourth Edition. Pp. 444. Bristol: John Wright & Co. London: Simpkin, Marshall, Hamilton, Kent & Co. 1903. Price 7s. 6d. net.

THIS edition of Dr Dowse's well-known book consists of fourteen lectures on massage, and two on medical electricity, with a short appendix on X-rays, high frequency currents, photo-therapy, and hot air baths.

The principles and practice of massage are carefully and minutely detailed, and numerous cases are quoted, illustrating the value of this treatment. One lecture is devoted to the Weir-Mitchell treatment of hysteria, and one to the Schott treatment of diseases of the heart.

The lecture on electro-physics and that on electro-therapeutics, although somewhat compressed, give a fairly comprehensive account of the apparatus and methods employed in electrotherapy.

A short appendix on X-rays, high frequency currents, and phototherapy complete a most interesting and practical book, which should be read by all those interested in those important therapeutic measures with which it deals.

The illustrations are numerous, but numbers of them are rather crude. A more extended use of the photographic method might with advantage be employed.

Saunders' Year-Book of Medicine and Surgery. Under the general editorial charge of GEORGE M. GOULD, M.D. *Medicine.* Pp. 691. London, Philadelphia and New York: W. B. Saunders & Co. 1903.

SAUNDERS' Year-Books are so widely known that little need be said regarding the publication of another volume dealing with medicine and its branches. The volume contains abstracts of recent literature on general medicine, pediatrics, pathology and bacteriology, nervous and mental diseases, cutaneous diseases and syphilis, materia medica, experimental therapeutics and pharmacology, physiology, legal medicine, hygiene, preventive medicine, and physiological chemistry. The standard of excel-

lence remains as high as in previous volumes of the series. One of the main features of the abstracts is that they are not too brief, and the volume is the more valuable in consequence. The work contains five plates, and an index of nearly twenty-nine pages.

Manual of Surgical Treatment. Part VI. Sect 2. By W. WATSON CHEYNE, C.B., M.B., F.R.C.S., F.R.S., and F. F. BURGHARD, M.D., M.S. (Lond.), F.R.C.S. Pp. 559. London: Longmans, Green & Co. 1903.

THE authors are to be congratulated on the completion of the last volume of this excellent and useful manual. The present volume keeps up the high standard attained in the earlier ones.

It deals with the diseases of the rectum, accessory glands of the abdomen, the spleen, genito-urinary organs, concluding with those of the breast and thorax.

In the treatment of Rectal Disease, the authors favour excision (after Whitehead's method) as the best treatment for Internal Hæmorrhoids. Cancer of the Rectum is treated very fully, especially the treatment of the bowel left after excision. Twisting of the bowel after the method of Gersuny, and fixing in a Paul's tube before suturing the bowel to the skin, being two points laid special stress upon by the authors. Excision by the vaginal route is also recommended in certain cases in the female.

The diseases of the Liver and Gall-bladder are fully discussed. Cholesystectomy is not so frequently recommended as recent writings by other surgeons might lead one to expect. We do not see any reference to drainage of the hepatic and common bile ducts, a method of treatment in certain chronic cases which has proved itself of great value in the hands of Kehr and others.

Diseases of the Genito-Urinary Tract are treated very fully, due attention being given to the advances made in the surgery of the prostate gland.

We notice that the authors recommend in the operation for Circumcision, the method of splitting the prepuce between forceps to that of removing the prepuce after previously having clamped with forceps.

We are sorry more stress has not been laid upon the advantage of removing the pectoral muscles in operating for carcinoma of the breast for exposing the roof of the axilla.

Chapter xxv. is devoted to methods of diagnosis in affections of the bladder, the different methods of examination being

clearly and shortly put. The authors prefer Kelly's method of examination of the female bladder to other methods.

The volume throughout is illustrated freely, serving to render more clearness to material concisely and interestingly treated. All the subjects detailed are discussed in the fullest and most up-to-date manner.

It finishes a work which may be considered to present to the profession one of the most complete and readable books on surgical treatment, and one which ought to deservedly repay the authors for the time and work spent in its completion.

The Surgical Diseases of the Genito-Urinary Organs. By E. L. KEYES, A.M., M.D., LL.D., and E. L. KEYES, Jr., A.B., M.D., Ph.D. A revision of Van Buren and Keyes' Text-Book. Pp. 808. New York and London: D. Appleton and Company. 1903.

THE first edition of this work was published in 1873 and included syphilis. Syphilis is now omitted and the work divided into two parts. Part I. Diseases of the Urinary Organs including Gonorrhœa. Part II. Diseases of the Genital Organs. The prostate is included in Part I., although the authors consider it to be a sexual organ. "The prostate is the sexual heart. It has nothing to do with urination, and is quite passive during this act. But towards the sexual function it acts as a muscle, a sensory organ, and a gland," page 241. That the muscular portion of the prostate does play a part in the act of urination or in assisting the reservoir capacity of the bladder is believed by many, and the above statement by the authors is not supported by any argument.

The routine of genito-urinary surgery is carefully described, and along with the ordinary directions for diagnosis and treatment, is on the whole trustworthy. The treatment of stricture is not fully discussed, but the following statement is sound: "Cutting operations in stricture are daily growing in favour, yet if uncomplicated, no matter how tight, if not resilient and not of traumatic origin, if any instrument at all can be passed, dilatation is still the best method of treatment. If you cannot dilate, cut; never divulse," p. 221. It is natural in such a work as this to turn to those questions which are more or less *sub judice*, in the hope that the reasoning and guidance in these may prove instructive. We may consider three such subjects: (1) urinary fever; (2) the treatment of enlarged prostate; and (3) tubercle of the testis. *Urinary fever* is referred to as urinary septicæmia, and is classified as follows: (*a*) urethral chill, an acute form

of urinary septicæmia; (*b*) acute septicæmia or pyæmia characterised by repeated chills; (*c*) chronic urinary septicæmia: (1) dyspeptic cases in which digestive disturbance is the chief symptom; (2) septic type. The consideration of this important and difficult subject is markedly deficient both as regards etiology, symptoms and treatment.

Enlarged prostate.—Radical treatment is only shortly discussed and the authors believe that Chetwood's operation—a modification of Bottini's, is the ideal method, although they admit that for very large prostates prostatectomy by the perineal or suprapubic route may be needed for complete success. No mention is made of Albarran or Proust in reference to the perineal route, nor of Freyer in connection with the suprapubic operation; omissions which in a book published in 1903 are unsatisfactory.

Tubercle of the testis.—The authors are conservative in their views, and believe "removal of one testis tends if anything to encourage recurrence on the opposite side. The knife never removes all of the disease." They advocate palliative local procedures and attention to the general health of the patient. The treatment recommended in the early stage of the disease is not in accord with modern surgery, and too little attention is directed to the risk of extension to the prostate; but this becomes explicable when we read page 244, where tubercle of the prostate is discussed. The opening sentence reads: "Tuberculosis of the prostate is the central point, as it were, of genito-urinary tuberculosis. The point of origin of genital and urinary tuberculosis is much discussed (pp. 398, 735). Suffice it to say that we believe the prostate is usually primarily involved in the former, sometimes in the latter." This view is contrary to that generally accepted and our experience does not coincide with that of the authors.

The volume under review is unsatisfactory. Old methods and trivial conditions are too much enlarged upon, and while valuable they do not counterbalance imperfect information regarding many important subjects in this large field of surgery. As a book of information to students it may be useful, but it is too large for their purposes. Surgeons will find it inadequate in many of the more difficult problems where guidance and information are sought for.

Operative Surgery. By HERBERT WM. ALLINGHAM, F.R.C.S. Pp. 367. London: Baillière, Tindall & Cox. 1903.

THE author claims to present a useful book for surgeons "to hastily look up the leading features of an operation."

The book is well arranged and well furnished with illustrations, many of which are original. We think, however, that the author has attempted to put into small compass material which, in so doing, can only be treated in a perfunctory manner. Although neatly and shortly put, the information is of little value to a surgeon already well versed in the main points of an operation, nor is it sufficiently detailed to be of practical use to a novice in surgery.

Introduction is made to several operations by a short account of the anatomy of the part, which in many instances is vague and wanting in the detail necessary as an adjunct to the carrying out of an operation. Many of the anatomical terms used are out of date, and not in accordance with the most recent nomenclature.

Certain errors of spelling, as, for instance, "Kocker," presumably for Kocher, are to be found throughout.

The print is large and distinct, and the book easily read, but we think the author has spoilt an otherwise good piece of work by attempting to incorporate too many facts into small space, and we fail to see that the book can be of much service to experienced surgeons, or to students and general practitioners.

The book can be recommended as a useful "cram" for examination purposes, but we do not consider that the scientific and practical surgeon will gain much information by its perusal.

Anæsthetics: A Practical Handbook. By J. BLUMFELD, M.D., Assistant Anæsthetist to St George's Hospital, etc. Medical Monograph Series No. 7. Baillière, Tindall & Cox. Price 2s. 6d.

THIS unpretentious little volume has been written from the purely practical aspect, and all unnecessary theoretical considerations have been omitted. Nitrous oxide, ether, chloroform and varying mixtures of the two latter are the anæsthetics considered. From the Scottish point of view, exception may be taken to the predilection of the author for ether as the routine anæsthetic, but apart from this the teaching is sound and reliable. Particular care has been given to the description of the actual methods of administration, and to the early recognition of impending danger. Many minor but important practical points, too often overlooked in larger works, are here brought under notice. The book can be recommended as a safe guide to students and those interested in anæsthetics.

International Clinics. Edited by HENRY W. CATTELL, A.M., M.D., Philadelphia, U.S.A. Pp. 306. Vol. III. Twelfth Series. London: J. B. Lippincott, Co. 1902.

THIS volume contains a large number of interesting papers. In a paper on the "Treatment of Intestinal Perforation in Typhoid," Noel Manger recommends a delay of eight to twelve hours after perforation before operating, and washing out the abdominal cavity with sterilised water, views which will not be supported by many surgeons. A clinical lecture on "Internal Piles" by Prof. Tuttle, in which the author recommends the clamp and cautery method, is also of some interest.

Although one or two of the surgical papers are of some interest, the material presented is rather better in Medicine and Therapeutics. On the whole we do not think this volume comes up to its predecessors, but many of the articles are useful in giving a short review of up-to-date methods, and treat of subjects which are of much practical value.

Some Practical Points in the Diagnosis and Treatment of Gonorrhœa in the Male. By H. OPPENHEIMER, M.D., M.R.C.P. Pp. 44. London: Rebman, Limited. 1903. Price 1s.

THIS brochure is a reproduction of an address delivered by the author at the Hampstead Medical Society. As stated in the preface it does not pretend to be an exhaustive treatise of the subject. It consists of the practical experience the author has had in treating gonorrhœa, and is given in a lucid and interesting manner. Much is common knowledge, but the methods used are simply stated and orthodox. The urethroscope is not thought to be of much value, and the so-called Valentine treatment is deprecated. We can with confidence recommend the perusal of this small work to junior practitioners, as we believe the methods advocated to be reliable, and as satisfactory as any with which medical men treat this common and often intractable affection.

Lessons in Disinfection and Sterilisation. By F. W. ANDREWES, M.A., M.D. (Oxon.), F.R.C.P. (Lond.), D.Ph. (Cantab.). Pp. 222. London: J. & A. Churchhill. 1903.

THIS little book is an expansion of certain lectures delivered to the Nursing Staff of St Bartholomew's Hospital, and is intended for those who have no knowledge of bacteriology, or the principles of disinfection.

The book is very readable, and contains a large number of elementary facts; the nature and growth of bacteria, and, the principles of disinfection. Disinfection in midwifery, surgery and medicine is accorded in each case a separate chapter, and much useful information is given.

We think, however, that the book is too elementary and small to be of any value to students or practitioners; but for nurses it contains much that is extremely useful and instructive.

For the purpose for which it is intended we consider the book admirably adapted.

Annual Report of the Medical Officer of Health of the City of Edinburgh for the year 1902. By Sir HENRY LITTLEJOHN, M.D., LL.D. Pp. 84. Edinburgh: printed by H. & J. Pillans & Wilson. 1903.

IN this report Sir Henry Littlejohn details in full and adequate measure the experience of the year 1902 in its effects on the public health of Edinburgh. It is satisfactory to find that the city has shared in the general healthiness of the kingdom during the year. Evidence of this is seen in the fact that the death-rate of 15·83 is the lowest figure recorded for several years past, and, indeed, is lower than in any previous year with the exception of 1896. If it were possible at the same time to report that the birth-rate had risen, the basis of congratulation would be still more solid; but, unfortunately, the year shows the lowest birth-rate, 24·48, ever recorded in Edinburgh, and in this respect there is ample room for improvement. So desirable an increase may possibly be foreshadowed by the rise in the marriage-rate, which is distinctly higher than in 1901. The proportion of the sexes at birth in 1902 is much more satisfactory than in 1901, the masculinity having risen from 1020 to 1067. A diminished number of deaths of infants and of children under five years of age accounts for the smaller mortality of the year. The infantile mortality figure has dropped from 143 to 119, and, in the absence of severe epidemics of measles and whooping-cough, the deaths from zymotic diseases are also less than usual.

This year Edinburgh has ceased to pay for the notification of measles, which is not included in the notifiable diseases under the Infectious Disease Notification Act. This Act has now superseded the local Act under which notification was previously compulsory, and which included measles. The expense of notification has thus been largely reduced.

Bacteriological examination for the diagnosis of tubercle, typhoid fever and diphtheria has been utilised in the case of 383 specimens at a cost of £300. In the previous year 630 specimens were examined at a cost of £127, 15s. Thus the transference of this work from the laboratory of the Royal College of Physicians to the Usher Institute has resulted in the Corporation paying considerably more money for considerably less work. If these figures mean that, in a city renowned for its medical school, less advantage than formerly is being taken of bacteriological aid, the decrease in specimens examined would be of sad omen; but the Medical Officer of Health points out that many medical men obtain bacteriological reports from the laboratory of the College of Physicians.

The work of the City Hospital is fully detailed, and one is not surprised to learn that the case mortality is less in the cases treated in hospital than amongst those treated at home. Even better results may be hoped for when the work of the City Hospital is transferred to the improved buildings at Colinton Mains.

The report includes an account of the sanitary superintendence of factories and workshops and also a valuable table as to the occupational mortality in certain trades and industries of the city. In an appendix may be found a report upon the existing slaughter-houses and cattle market, which are situated in populous districts, and which should be removed in the interests of the public health. The report will strengthen the hands of the Town Council in carrying out the projected removal of these trades to a situation more remote from habitations and busy thoroughfares.

Sir Henry Littlejohn is to be congratulated on a valuable addition to the excellent series of reports issued by him as Medical Officer of Health of Edinburgh.

Ueber das Pathologische bei Nietzsche. Von PAUL JULIUS MÖBIUS, Wiesbaden. Pp. 106, octavo. 1902.

FRIEDRICH NIETZSCHE was born in 1844. His father was a Lutheran pastor in a village of Prussian Saxony. Some indications of neurotic heredity have been reported, though they have been denied by his sister, Mrs Foster, who wrote his biography. He grew up well-formed and healthy, went through the usual course of a learned education, and, owing to his great attainments in the classics, was made Professor of Greek at the University of Basle at the early age of twenty-four. He served in the ambulances during the Franco-German war of 1870, when

he suffered severely from diphtheria and cholera nostras. It is likely he returned too soon to his duties at Basle. At anyrate, he never recovered good health. He suffered frightfully from migraine, with half blindness, and after repeated sick leave was, in 1879, obliged to resign his professorship on a small pension. After that, he led a wandering solitary life in Switzerland and Italy. During these years he published a number of books and pamphlets on speculative philosophy, in which the extravagance of the style equalled the reckless vehemence of the sentiments. In the beginning of 1889, while living at Turin, Nietzsche required to be consigned to medical care as an unmistakable lunatic. He was transferred to Basle, then to Jena, where he was cared for by his mother and on her death by his sister. He remained in a state of deep dementia till his death at Weimar on the 25th of August 1900.

Nietzsche's mental history may be traced in his numerous writings. In scrutinising them it is difficult to hit where the physiological ends and the pathological begins. One might hesitate to say that he was ever quite sane, while his admirers will only recognise his mental derangement from the open outbreak at Turin. Sober-minded readers will have little difficulty in tracing insanity in his later writings, becoming with each publication more pronounced. In the work under review, Dr Möbius has undertaken to inquire into the nature of the mental affection of this unfortunate man. He has read all Nietzsche's writings, a hard task, and gained particulars from his sister and some of his friends.

In the progress of Nietzsche's insanity we trace the gradual exaggeration of traits in his character: from childhood an overweening conceit, haughty scorn, fondness for paradox and aggressiveness, with a prevailing want of moderation. To use his own expression, he was wont to philosophise with a hammer; he delighted to shatter other people's idols, and in the end took to smashing his own. He had the audacity to style himself as Nietzsche the godless, and Nietzsche the immoralist, and proclaimed that his absurd book, Zarathrusta, marked the highest point of humanity, the end of the largest error. One would thus be inclined to regard Nietzsche's insanity as what the Germans call *primäre Verrücktheit* or paranoia. Dr Möbius, however, regards it to be a case of general paralysis, a form of insanity due to the action of external causes, especially syphilis and fast living.

Here it may be observed that with Nietzsche amativeness was decidedly low; he was temperate, even abstemious, in his living, refined in his habits, and very fond of music and poetry. During the paroxysms of migraine he took chloral in large doses.

His sense of smell seems to have been morbidly acute, for he was obstrusively given to complain of bad odours.

Dr Möbius bases the diagnosis of general paralysis upon the following symptoms recorded at Basle and at Jena:—The pupils were observed to be unequal, and to react sluggishly to light. The reflexes were lively, there was a sinking at the right angle of the mouth and a trembling of the hands on excitement There was no trembling of the tongue nor disturbance of speech. Uninterrupted decline of the mental powers ending in the deepest dementia. Death after repeated paralytic attacks. There was no autopsy. The mental symptoms, though, perhaps, not typical, do not gainsay the diagnosis, but the duration of the malady is much longer than any ordinary attack of general paralysis. Möbius finds that the mental derangement lasted for at least nineteen years. In this inquiry the author shows his usual thoroughness, power of thought, and facility of expression; and it is more the fault of the subject than anything else that this treatise is hardly as interesting as some of his other works. Nordau in his well-known book on "Degeneration" has given a description of Nietzsche's writings, which some think too unfavourable. They never had any circulation in Britain, and Nordau is right in classing his admirers and followers amongst the degenerate. It was only when Nietzsche attacked all religion and morals that he obtained any readers, who mistook the heat of the dunghill for the fire of genius.

Christian Science, Medicine and Occultism. By ALBERT MOLL, M.D., Berlin. Translated by F. J. REBMAN. Pp. 47. London: Rebman. 1902. Price sixpence.

DURING a recent visit to America Dr Moll was astounded to find the extent to which the doctrines of "Christian Science" have spread in the United States. He has accordingly written a brochure giving an account of this "new psychical epidemic," which, he thinks, will soon have to be combated in Germany and other European countries. A very clear but brief account is given of the origin of "Christian Science" and of what its claims really are. The author then turns his attention to the relation in which "Christian Science" stands to medicine. While conceding that there are cases of illness which may be benefited by this new method of treatment, he shows clearly the very great danger to health and even to life which must often be run by resort to this, as to any other method in which diseases are treated without preceding proper diagnosis. Dr Moll's booklet is written in a temperate and judicial tone, and may be

recommended to the attention of those interested in the subject. The translation seems to be well done.

Carmina Medici. By WILLIAM FINDLAY, M.D. Paisley: Alex. Gardner. 1902. Price 3s. 6d.

EDINBURGH had in the past in MacLagan and Gillespie, and has in the present in John Smith, James and Gulland, medical rhymers, gifted with the capacity of stringing together verses hitting off passing events, or dealing humorously with the various sides of medical life.

In Dr William Findlay, Glasgow has one whose muse soars higher. Some of the *Carmina* are quite long poems, dealing with all sorts of subjects, grave and gay.

There are several obituaries of dead and gone Glasgow doctors, some of them breathing the true spirit of poetry; the "Hypochondriac" is really clever; and "Gairdner's Awa'" is a regular Lowland Lament. Many of the *Carmina* are obviously constructed on a Burns framework, and are none the worse of that. Some may think the glossary at the end superfluous. The idea of anyone not born and bred in Scotland trying to read and enjoy the *Carmina* would be difficult to accept, did one not recollect how popular the Kail Yard School was in England. By the way, we think Dr Findlay might have spared his sneer at "dainty Ian's 'MacLure' rot." There may not be many Weelum MacLures in practice, but we think the medical profession generally is grateful to Ian Maclaren for his most sympathetic if too kindly picture of the country doctor.

Burdett's Official Nursing Directory. Pp. 439. London: The Scientific Press. 1903. Price 3s.

THIS is a list of Nurses, and the word "Official" is explained in the preface, "in the sense that the information given in it relating to Nurses is either derived from official sources or has been verified by competent authorities."

It is in its way an imitation of Messrs Churchill's Medical Directory, to which no one need send particulars unless he chooses. In the case of the Medical Directory, the official Medical Register being available, the compiler can get the information which is not volunteered. As there is no official nursing register, the compiler of the Nurses' Directory has to trust to voluntary information, and so far as we can make out, Scottish nurses do not seem to be ready to give this. At all events we have sought in vain for the names of most of the

nurses of our acquaintance. We think they make a mistake in this: every directory must have a beginning; and when all respectable and properly trained nurses are on the pages of the directory, it will much facilitate the efforts of those who are anxious to see a really official Directory of Nurses.

We suppose the matter has been carefully considered by the compilers, but it seems to us that it would have been better to have admitted only the names of those who had had a three years' proper hospital training.

The book also contains an outline of the principal laws affecting nurses, and a list of nursing institutions.

The Doctor's Handy Reference List. London: Geo. Pulman & Sons.

Is a handy little booklet giving brief particulars of Asylums, Nursing Homes, Consumption Sanatoria, Inebriate Retreats, etc., etc., in Great Britain and Ireland. So far as we can judge it seems to be wonderfully complete, and will be found useful by many. There are numerous advertisements sandwiched among the pages of information, and so the publishers are enabled to sell it at the not excessive price of sixpence.

An English Handbook to the Paris Medical School. By A. A. Warden, M.D. Pp. 74. London: J. & A. Churchill. 1903. Price 2s. net.

The foreigner who goes to Paris experiences difficulty, as is well known, in finding at once the special post-graduate work he desires. There exist in Paris none of the facilities offered to foreigners at Vienna or, to a lesser extent, at Berlin, for ascertaining what special courses are being held. "There is no central bureau of information, no publication wherein he can see at a glance, and choose that which he seeks." The author's handbook, however, gives ready information on the Faculty of Medicine, the hospitals—general, special, and those for children—museums and libraries, medical societies, the practice of medicine in France, the Pasteur Institute, etc. There are also indicated the hour, day and hospital where each special course is held. We congratulate the author on the excellence of the handbook, which will be as indispensable as a Baedecker to the graduate who wishes to study in Paris.

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THE SCOTTISH
MEDICAL AND SURGICAL
JOURNAL

THE PLEASURES OF IGNORANCE[1]

By JOHN CHIENE, C.B., F.R.C.S.,
Professor of Surgery in the University of Edinburgh

FELLOW STUDENTS,—I wish to speak to you to-day of the pleasures of ignorance. In the month of August it was my good fortune to be introduced to the study of the Alpine Flora. As I passed from flower to flower, I thought of my fellow students; I thought of this class-room, and I pondered over the pleasures of ignorance.

Two companions, one a botanist of life-long experience and world-wide renown, the other an earnest student of plant life, an authority on the *Carices*, a diligent collector, whose superabundant energy has as its safety-valve the science and practice of botany; these two friends were my teachers, kindly and patient, and it is my desire and expectation that you may have such teachers in this department when you are introduced to the study of surgery. May you have the same good fortune in the tutorial classes in this class-room, and in the surgical wards, as fell to my lot in the Swiss valleys, when I made intimate acquaintance with the Alpine rose, the Alpine gentian, the Alpine poppy, the edelweiss, the saxifrages, the orchids and the lilies.

To reach them was attended with some labour and perseverance; so your studies of life in the hospital wards will require all your energies and call forth all that is best in you.

You will admire and wonder, your motto will be "Excelsior," and your reward will be a feeling of duty done and difficulties overcome.

[1] Being the opening address to the Class of Surgery.

John Locke said of himself on his return to London after graduating in Montpelier: "I studied curiously with the *most intent eye* and *utmost diligence*." Would that you and I could so speak; would that you and I at the end of this session, at the end of our life-work, may be able to say that we have "studied curiously, with the most intent eye and utmost diligence," in the wards of the Edinburgh Royal Infirmary.

You will be travellers, as I was a traveller, in a strange land, *each day, each hour* with its new discoveries, feeling all the time intensely the *happiness* of, the pleasures of *ignorance*, and the immensity of the problems yet unsolved, the solution of which is to be your life-work.

Hartley Coleridge, in his "Life of Fothergill," spoke truly when he said "there is a great deal that is mysterious in whatever is practical."

You will say there is a great gap between botany and surgery. As you go on you will find your life is a living circle; in that circle lies an equilateral triangle with the three sides—anatomy, physiology and psychology, with botany in the middle—all bound together with *nous*, welded together with *common sense*—doing the right thing at the right time—and in that you have the best definition of *successful surgery*.

Most of the diseases are simply botany, welded to anatomy, physiology and psychology. Many of the injuries are only dangerous when that great group of plants termed Bacteria finds in the injured part a soil, a nidus, appropriate for its growth and development. Prevent their entrance, interfere with their growth if they have entered: the patient recovers. Allow them to enter and allow them to flourish, and the case will end in disaster locally, and may end in the death of your patient.

When they enter, your anxiety is increased tenfold, you never know what is to happen next. You are oppressed with a feeling of uncertainty, worry, a feeling of wrong-doing. In the one case you are like the captain of a vessel wind and water tight in the open sea; in the other the same captain is on a lee shore, with a leaking vessel on a stormy night, does not exactly know where he is, and does not know what is to happen next, the anxiety of uncertainty calling forth all his

skill and energy. We can only be educated through suffering. It is the duty of the true teacher to render that suffering pleasurable by pointing out to his pupil that suffering for one's other self, for one's better part, for one's good, is the highest happiness.

Preventive medicine is that branch of medicine which relates to the health of the community. Preventive surgery (prevention of contamination of your wounds) is successful surgery—a failure on your part is no longer looked upon as an unavoidable misfortune, a dispensation of Providence, but is reckoned as a preventable mistake.

How different it was forty-three years ago, when I first knew a surgical ward. *Then*, blood-poisoning, fever and death were believed to be due to the constitution of the patient. *Now*, they are proved to be due to contamination of the wound, to WOUND INFECTION. Hence your greatly increased responsibilities.

I said "forty-three years ago"; I did not say, "when I was a student." I would rather say when I was as you now are, sitting on these seats, because we must never cease being students. As long as we have life, we must go on absorbing knowledge. When we cease absorbing, we are dead. Many die long before they are buried, cumberers of the ground, absorbing oxygen and exhaling carbonic acid, leading a vegetable existence, of use in their quiet way, a protest against over-pressure.

When we come face to face with any problem, we cannot pass by like the priest and the Levite in the parable. You will have daily opportunities of being good Samaritans; a kind word from, a kindly action by a dresser will often do more good to the injured man or woman than all the medicine he or she swallows. "A merry heart doeth good like a medicine." Solomon had a high opinion of drugs! A cold hand, a rough, a pain-giving touch, mean loss of confidence by the patient. Lose the patient's confidence and you have lost all. A warm hand, a kindly word, a gentle touch, are the essentials for successful practice.

Strive to be quiet. Be a *gentle*man in the highest and best meaning of the term; as Burns says, "A *gentle*man in word and deed."

Bacteria.

The plants you have now to study in the Hospital—*Fission Fungi*, as they are called—are divided, as you know, into two great groups, the saprophytes and the parasites. The saprophytes are the scavengers, breaking up the complex molecules of dead matter into simpler compounds, which in their turn become food for living things.

The parasites, on the other hand, prey upon living tissue.

There is no strict line of demarcation between these two groups.

The poisonous products which result (in other words, their excreta) are termed *toxines* = poisons—luckily with no power of multiplication. The bacteria have as their essence self-multiplication, *constant division.* Yeast acts on grape sugar, and breaks it up into two poisons—Alcohol and Carbonic Acid; but the yeast is increased in quantity in the process. All infectious diseases are organismal. Proved as regards most of them such as diphtheria, typhoid fever, tubercle, erysipelas, influenza, cholera, plague, lockjaw, gonorrhœa; still to be proved in hydrophobia, scarlet fever, syphilis and smallpox. Reasoning by analogy, all are organismal. Infectious diseases are divided into two great groups. In some an attack of the disease prevents another attack; the person is *immune.*

Smallpox, scarlet fever, syphilis are examples. In the other group an attack does not protect; the person is not immune. It would almost seem that he is rendered more liable by a previous attack. As examples we may note—tubercle, influenza, erysipelas. What is immunity? A *terra incognita.* Hence your good fortune — the happiness of ignorance.

If you give artificially a poison to an animal, gradually increasing the dose, the animal by the dosage gains a power of resistance infinitely greater than it originally possessed, and its blood contains a poison which counteracts the influence of the bacteria, and, if injected into another host, will protect that individual from an attack.

If the period of incubation (the time the plant takes to germinate) is of some length, if you then inject this poison, the antitoxine, *after* the patient is exposed to the disease, you

will prevent the growth of the organism, you will prevent the disease.

This is what Pasteur did with hydrophobia, and which can be done with lockjaw or tetanus, because the germ of hydrophobia and the germ of tetanus take some time to grow.

Advantage has been taken of that fact and has saved very many lives. The period of incubation varies in each disease. The longer the period, the more hope you have of arresting the disease by introducing a protective serum.

The poison, the enemy of the organism, is termed an antitoxine. Its formation means a cessation of the disease. In these diseases in which no immunity follows, the antitoxine has no stability, no permanence.

These bacteria are plants, and my opening analogy was not so far-fetched as perhaps some of you supposed.

As I was introduced to many new plants this summer, so you are to be introduced to many new plants this winter, each representing a separate disease—from a thistle comes a thistle, from a bacterium comes the same bacterium. Some time ago I asked my house surgeon to take one of those infective diseases—tubercle—and to take a census of the patients in the surgical wards. I give you the result: 274 patients; 98 tubercle—36 per cent. of the patients were tubercular.

Tubercle is unfortunately one of the infectious diseases in which the antitoxine has not yet been discovered. All that we can do is to eradicate the local mischief and prevent it spreading; and, if we cannot remove the disease, as for instance in the lung, then fresh air to improve the health of the person attacked is our mainstay. Good is done if the treatment is begun before other organisms get into the diseased area, before *mixed infection* occurs; when mixed infection has occurred, then it is too late. How do they get in? At a broken point, at a leak. Do they always do harm when they get in? No. (1) If in small amount; (2) if the patient has resisting power (vitality +); (3) if the organism is feeble. (1) If on the other hand they are in large amount; (2) if there is no power of resistance (vitality −); (3) if they are virulent; then disaster is the result. A battle is fought. Who is the victor? The parasite or the host? If the parasite overcomes the host, then the disease is developed and it may kill; if the

host overcomes, then the disease does not develop—the person escapes. We all, for instance, inhale the tubercle bacillus in the air, we swallow it in milk; only the minority suffer, the others have the power of resistance.

I have said we swallow the bacillus (the bacterium) of tubercle in milk. In other words, I hold that the tubercle bacillus developed in the cow can be transmitted to man.

Robert Koch, the discoverer of the bacillus of tubercle, at the Tuberculous Congress in London in 1901, said, "The infection of human beings from tuberculous cattle is a very rare occurrence." It was universally believed until this utterance that cattle, when tubercular, were a great danger to the community.

Much harm has been done by this assertion of Koch. Koch's opinion naturally carried great weight. It was, *if true*, an epoch-making statement. A Royal Commission has been appointed in this country to investigate the truth of the statement. We wait for its report, but I am glad to tell you that in my opinion the assertion *is now discredited.* I am also glad to be able to tell you that a distinguished student of this school has done more than anyone else to disprove Koch's statement. He is now Professor of Pathology in Aberdeen—D. J. Hamilton.

J. M'Lauchlan Young, a veterinary surgeon and lecturer on Veterinary Hygiene in the University of Aberdeen, has worked with him, and I ask your careful consideration of their experiments in their paper entitled, "On the Relationship of Human Tuberculosis to that of Bovines"; you will find it in the *Transactions of the Highland and Agricultural Society of Scotland*, 1903.

Don't take my word for it. Judge for yourselves. "Be persuaded in your own minds."

Our little island has now become the dumping-ground of the universe. "Made in Germany" is printed on many of our goods. Telephones, machinery, cutlery, pianos, waiters, old English furniture, all come from Germany; hokey-pokey and barrel-organs from Italy; eggs and motor cars from France; chairs from Austria; butter and cheese from Holland and Denmark; clocks, toys and milk from Switzerland; matches from Sweden; doors, boots and shoes, steel rails,

ships, bicycles and Trusts from America. All these things *Punch*, in the number for October 7th, demonstrates to John Bull sitting, disconsolate, beside a broken-down oak tree. Possibly that picture—with a little addition—might be looked at through spectacles other than those of the merchant and the taxpayer. It might even have an interest for the man of science, the farmer, the veterinarian, the dairyman and the milk consumer. I once heard Professor Sir Thomas Fraser, an acute and observant investigator, say that more time is spent by scientific men in disproving false statements than in making new discoveries.

In this question, as in every other problem that you have to face, you must be persuaded in your own mind. Weigh the evidence, and act in accordance with your judgment after careful consideration; don't be led away by the power of a great name. I have made up my mind. If Koch is right, then he can say: "I do not deem it advisable to take any measures against tubercle in Bovines."

If Hamilton is right, then tubercle in meat and tubercle in milk form a tremendous danger to the community, and measures must be taken to counteract that danger.

I owe an apology to the seniors present. They know of these things. I can only ask them to remember that they were once juniors; and I can assure them that, if they will, so to speak, share my responsibility, they cannot do better than each take a junior in hand and impress these simple truths on their young friends. There is no way so good of learning anything as by teaching it to another; I began teaching in my second year. The nearer the teacher is to the taught, the more profitable and pleasant for both is the pursuit of knowledge.

Let me now say a word on the

Art of Medicine.

The late Dr John Brown—the author of "Rab and his Friends," as he is often called, I think *unfortunately*, because his other writings do not receive the attention they deserve—has left this world as a legacy his "Horæ Subsecivæ" (his leisure hours). *Read that book.* I know no better book to place in the hands of a young physician or surgeon.

Professor Crum Brown says of his brother John (those who knew and loved him can vouch for the fidelity of the description):—

"He was indeed a very skilful physician, full of that apparently *intuitive* knowledge which really came, as he so well pointed out that it can only come, from constant, close, accurate observation, and from a sympathetic interest in the patient as a fellow human being, rather than as a *case*."

"In more than one passage he states his views as to medical education, and gives advice to young medical men as to how they should train themselves so that they may best perform their sacred duties; and *what he advised them to be he was*."

Dr John Brown was to me the *Apostle* of the art of medicine. An apostle must be a personality; an apostle appeals to the individual. It was he who showed me by his writings, and still more by his very self, the value of the mental factor in our patients. To John Goodsir I owe my anatomy, physiology and psychology. I applied the psychology to practice—John Brown's teaching.

Hugh Haliburton, in a very interesting paper entitled "Burns leaving School," tells us that Burns spent his seventeenth year at Kirkoswald learning mensuration, surveying and dialling; but Burns himself tells us: "I made a greater progress in the knowledge of mankind." It is this knowledge that is the main point in the *art* of medicine. You can only know your patient when in sympathy with him.

Just as Robert Burns took an interest in mankind, doubtless paying special attention in his quest to the *individual* man—his whole poems teem with individualism—so it is the man behind the minister that is of special interest to his parishioners; so it is the man behind the doctor that interests his patients; and so the man behind the patient that must be gauged by the doctor, if that doctor is to be successful in the *cure* of his patient. With cure comes confidence: "He pulled me through," "He knows my constitution," are simply expressions of this confidence on the part of a patient for his medical adviser. In other words, he—better still, she—is in sympathy with his or her medical adviser. You can only know your patient when in sympathy with him.

You come here to learn, or rather to have an opportunity

of learning, many things, but your best lessons are progress in the knowledge of mankind. In the wards your patient is a *living* lesson. Your neighbour in the class-room will teach you something—will teach you, perhaps, more than your professor. Your love and respect for the colonel of your regiment or the captain of your ship may encourage you to do your daily duty; but, when the time of stress comes, your comrade in the ranks is far more important: a touch of the sleeve of his coat will do more in the day of battle than the thought that you are a "citizen of no mean city." What a thought for each one present! It comes to this—that *every* action of *every one*, however apparently humble and obscure, has an audience greater far than the most popular politician. If I do a little thing well or ill, that wellness or illness goes on for ever.

The new-born child often teaches a lesson when a great preacher may have failed to make any impression. The "little things" rule the universe. Even one of the lower animals will by its conduct appeal more directly to the best instincts of mankind than the most polished oratory of a Demosthenes.

My difficulty with my dressers has always been to persuade them that they are of some use in this world. If they only knew their power for good (and the opposite, if that power is improperly used)! It is tremendous. A steam hammer is a child's toy to that power.

Dr John Brown tells us of three painters, Opie, Reynolds and Etty. Opie, when asked what he mixed his paints with, said, "With brains, sir." Reynolds, when looking at a picture, said it wanted "That," with a snap of his fingers. Etty did not speak much to his pupils, but asked them to *Look* and to *Try*.

Take that triangle home with you and ponder over it. If you have these three characteristics you require no help from me or anybody else.

Hypocrates laid down four qualities as indispensable in every good medical man—Learning, Sagacity, Humanity, Probity. This is true also to-day.

Dr John Brown, in his essay on "Locke and Sydenham," says: "One great object we have in now bringing forward the works and character of Sydenham, is to enforce the primary necessity of attending to *medicine* as the *art of healing* not less

than as the science of disease. Our age" (he wrote nearly fifty years ago) "is occupied far more with arranging subjects, and giving names, and remembering them, than with understanding and arranging objects. There is often more knowledge of words than of things."

Don't confuse the *art* with the *science* of medicine. How well Dr John Brown puts it. He compares Harvey's science, Sydenham's art; Charles Bell's science, Abercrombie's art. You must read it for yourselves. He ends his essay with Broussair's words: "The real physician" (may I say surgeon?) "is the one who CURES; the observation which does not teach the ART of HEALING is not that of a physician (of a surgeon), it is that of a naturalist."

Keep ever before you Dr John Brown's words in his essay on "Locke and Sydenham": "The supreme end of every man's thoughts and energies—the two main issues of all his endeavours—are the glory of God and the good of men." John Brown tells us of Thomas Sydenham, the great physician, that "human life was to him a *sacred*, a *divine*, as well as a *curious* thing, and he seems to have possessed through life, in rare acuteness, that *sense of the value* of what is at stake, of the perilous material he had to deal with, and that *gentleness* and *compassion* for his suffering fellow-men, without which no man —be his intellect ever so transcendent, his learning ever so vast, his industry ever so accurate and inappeasable—need hope to be a great physician (to be a great surgeon), much less a virtuous and honest man" ("Horæ Subsecivæ," 2nd ed., p. 35).

Sydenham was a great physician. He tells us: "When no manifest indication pointed out to me what should be done, I have consulted my patient's safety and my own reputation" (note the order) "most effectually by doing *nothing at all*." He adds: "It is much to be lamented that abundance of patients impute it (doing nothing at all) to ignorance or negligence on our part."

Sydenham taught us all a lesson—*Do nothing*; in other words, it is not always necessary, when called to a case, to do something.

Learn to hold your hand.

"My chief care in the midst of so much darkness and

ignorance is to *wait a little*" (Sydenham). True in Sydenham's time, 250 years ago, true to-day. Sydenham was a wise man.

Sydenham treated a hypochondriac (*malade imaginaire*) by sending him to Dr Robertson, *Inverness*. The patient arrived in Inverness after many days—for travelling at that time was slow—*full of hope*. No Dr Robertson had ever been in Inverness. The patient returned *full of anger* to Dr Sydenham—*Cured*. A man cannot serve two masters; his mind cannot be full of hope or full of anger, and at the same time full of thoughts of his imaginary ailment. Where can you read wiser words than the following to his students beginning hospital work: "In entering this place (St Bartholomew's), even this vast hospital, where there is many a significant, many a wonderful thing, you shall take me along with you, and I will be your guide. But it is by your own *eyes*, and your own *ears*, and your own *minds*, and (may I add) your own *hearts* that you must *observe* and *learn* and *profit*. I can only point to the objects and say little else than '*See here and see there*'" (Sydenham).

On the 7th of December 1741—162 years ago—the managers of the Royal Infirmary drew up a set of rules for the guidance of the staff, students and patients.

1. Theatre to be thoroughly purified before an operation.
2. Students to behave soberly and discreetly.
3. Quiet is to be kept in the theatre and in the wards.
4. No jumping, laughing, quarrelling, or being in any way noisy so as to disturb the patients.
5. Students are not to crowd round the beds at time of visit or at the dressings.
6. Physicians and surgeons are to observe a fixed hour of visiting the Infirmary, so that the students and apprentices may not lose their time in unnecessary waiting on.
7. The surgeon and his assistants are to keep as much from between the patients and students as it is possible in the operating theatre and in the wards.

Let these old rules still be our guide; the old lamp still burns.

What Sydenham said 250 years ago, what the managers of the Royal Infirmary ordained 160 years ago, still holds good.

The world is still young, and the story of the magician in "Aladdin," who was not accounted wise when he offered new lamps for old ones, is to all of us a useful lesson.

The conclusion of the whole matter may be summed up in these words: "The thing that hath been is the thing that shall be, and there is nothing new under the sun."

You may say, if there is nothing new, then progress will be at a standstill. It is not so. We see through a glass darkly. Radium *always* shone; we only saw it in 1902. We progress, because we see the light; it was always with us; we only see more clearly.

> "Our little systems have their day;
> They have their day and cease to be,"

simply means we stumble in our progress because it is still dark. Two sorts of darkness there are—the darkness of our minds, and the darkness of night. A time will come when the light will dissipate both. Then and only then can we say "We know."

I have placed in your hands a synopsis of the course which lies before us. I can only be your guide and say, as Sydenham said, "See here and see there."

To-morrow we enter on a study of the Principles of Surgery. May I express a humble hope that I will so bring them before you that they will be a firm foundation on which to build your hospital studies during your undergraduate career, and a life of usefulness to your suffering fellow men and women when you go out into the world to practise your profession as physicians and surgeons.

I know that the *Seniors* have come to work, and from past experience I assume that the reason is self-evident. The *Juniors* have also come here to *work*. To *work* with me and with the demonstrators of surgery during the coming winter, and with the clinical surgeons after Christmas, for so you are recommended by the University in the Calendar. It is believed by *the Authorities* that you will better appreciate Clinical work after fifty lectures on the Principles of Surgery, and after fifty lectures on Physiology, a *Course* of Experimental Physiology, and after three more months' dissection. Would that my junior friends would do this, and leave the surgical clinical wards during the first three months

of winter for the senior students, who would gladly avail themselves of the opportunity of clinical instruction.

If, I say, you elect to work with us, we shall one and all do all we can to give you an insight into one of the most fascinating and most progressive branches of medicine.

We will try and show you the *practical* value of your anatomical studies, and we will try and interest you in the prelections of your teachers of physiology. Many hold that that subject is becoming a subject too much apart from practical medicine and surgery. On that I give no opinion. My sole object as a teacher is to weld it more firmly than ever to the practical subjects. Look at the question from a practical point of view. Ninety per cent. of my hearers to-day will have to make their *daily bread* as practitioners of the *Art* of medicine. By the *Science* of medicine you cannot make your daily bread. The science of medicine, on which the art is founded, is all-important, but still in our ignorance three-fourths of the successful practice of our art depends upon what Professor Crum Brown, speaking of his brother John, called *intuitive* knowledge, founded on constant, close, accurate observation, and upon the sympathetic interest in the patient as a fellow-being rather than as a *case*, the standpoint of the science of medicine. The mental aspect of your patient is still a most important factor in his treatment. No instrument has yet been found which can measure this ; it is to be learned in the wards at the bedside. Remember Sydenham's treatment of the hypochondriac. To attempt to compress the study of the *Art* of general medicine and surgery into the two last years of your five years' curriculum, does not seem to me to be the best way to obtain the main object which has brought you from the ends of the world to this school.

You came to get food. See that you get it. The old lamp still burns. I might say more, but "the wise man refraineth his lips," and I must remember that the time of my students is too valuable to allow this class-room to be made a dumping-ground for academic discussions on the best mental pabulum for *Homo medicus embryonicus*. "Ye are of more value than many sparrows." See that you don't give away old lamps for new ones until you are fully satisfied that the old lamp "has had its day and ceased to be."

During this hour I have pictured to myself a vista with the foreground clothed in the pleasures of ignorance. The end of the hour has come. May I, before we part, fill in the background of the picture with the thought that ignorance has, along with its pleasures, its *responsibilities.*

These are many, but chief among them is SILENCE.

VALEDICTORY ADDRESS [1]

By JAMES RITCHIE, M.D., M.R.C.S.Eng.; F.R.C.S.Ed., etc.

LADIES AND GENTLEMEN, — Fellows of the Edinburgh Obstetrical Society,—Two years in prospect seem a somewhat long extent of time, but when that period is past with all its opportunities it fills a much smaller space in our mental vision. At the time when, two years ago, you conferred on me the great honour of placing me in this chair, I entered on its duties with a considerable amount of diffidence, which was, however, to some extent lessened by the knowledge that I might confidently expect your forbearance, and that I would have the assistance of able men in the secretariat. My expectations in these respects have been abundantly fulfilled. I thank you for your indulgent consideration, which has rendered my duties the source of so much pleasure to me. In your name I thank our Secretaries—Drs Wm. Fordyce and J. Lamond Lackie—for the care with which they have fostered the interests of the Society; on them rests the responsibility of providing for us, and to them belongs the credit for the success of the arrangements. I desire also to acknowledge my personal obligation to them for the willing and able help and guidance which they invariably afforded me.

I trust that our Treasurer—Dr Wm. Craig—will not consider the thanks which we yearly accord him a merely formal vote. They are but an imperfect expression of a deep feeling of gratitude. The balance at the credit of the Society when he twenty-seven years ago became our Treasurer was £20, 12s. 11d.; now it amounts to £513, 17s. 7d. It is to Dr Craig's initiative that the Society is indebted for the present form of our Transactions, and because of our Transactions we have so

[1] Delivered to the Edinburgh Obstetrical Society, 11th November 1903.

great an increase in the number of our Fellows. At the time when, in 1877-78, the Society issued its first annual volume of Transactions in paper cover, the number of Ordinary Fellows was 116; three years later, when at Dr Craig's suggestion the Society resolved to issue a bound volume in the form in which it still appears, the number was 164; now the number of Ordinary Fellows is 449.

To Dr Lamond Lackie—the Editor of our Transactions—we render hearty thanks for the volume which, after a year's gestation, he has delivered to us. It does credit to its parents. I hope that the Fellows are sufficiently grateful to the Editor for having taken on himself the pains involved in the revision of the reports of discussions.

The temporary change of our place of meeting, consequent on alterations in the premises at 5 St Andrew Square, again brings before us the desirability of the Scientific Societies in Edinburgh combining to provide a home common to them all, with a common hall, and independent chambers for libraries, etc., belonging to the different societies. The difficulty of realisation is mainly a financial one.

Although on looking back to November two years ago the time seems short; when we begin to analyse the large amount of work which has been submitted to our Society, and when we consider the blanks in our lists of Fellows, we realise that the period is not so short as at first sight it appeared.

During the period involved, our death-roll has been large, viz., 24 (five Honorary, nine Corresponding, and seven Ordinary Fellows)—the same number as Sir Halliday Croom reported in 1899. He then stated that the death-roll was larger than during any other similar period of the Society's history. At that time the total number on our roll was 525; now it is 567.

We miss from our roll of Honorary Fellows the name of one who did much to advance obstetrics and gynecology in America, a man who had a strong personality and a strong following—Paul Fortunatus Mundé, Professor of Gynecology in Dartmouth College. He died at New York in 1902, at the comparatively early age of 56. He was a man of great courage, of high ideals, and had the desire to do his work thoroughly. Although he was born in Dresden, Saxony, he was educated in America, his father having had to flee from

his native land because of his political activity. Paul Mundé, after graduating with high honours at Harvard, went to Germany to continue his medical education. In the Austro-Prussian War he served as a surgeon against Prussia, but in the Franco-Prussian War on the side of Prussia, and in the interval between these campaigns he was resident in the Würzburg Maternity Hospital for three years, and assistant to Scanzoni. At the siege of Paris he had equipped a field hospital, and on returning to it one morning he found it in flames. On learning that the escape of two patients had been cut off by the fire, he plunged into the building and succeeded in rescuing both of them. For this heroism he received the iron cross from the Emperor of Germany. After the fall of Paris he studied at Heidelberg, Berlin,Vienna, London, Edinburgh and Paris, then took up his abode in New York, where he exerted a great influence on the study and advance of gynecology. As editor of the *American Journal of Obstetrics* he made it a great success. He was one of the founders of the American Gynecological Society, and later its secretary, then its president. He wrote a large number of articles on Obstetrics and Gynecology, also one work on Minor Surgical Gynecology. During session 1877-78 he made a communication to our Society on the dull wire curette in gynecological practice.

We also miss from the list of our Honorary Fellows the name of Eduardo Porro, a name which, since 1876, has been associated with one of the operations for hysterectomy. Although Porro's operation is now rarely the one of choice, unless time be of importance, its introduction marks an era, and its success did much for the advance of obstetrics and gynecology in Italy. Like many others in our profession, his early life was marked by pecuniary embarrassment. At the age of 23 he obtained his medical diploma at Pavia, and the following year he volunteered under Garibaldi in the cause of Italian unity. After the fall of Mentana, he was appointed assistant in Obstetrics in one of the hospitals of Milan, and for the next seven years he continued there, industrious, exact and energetic, in the study of obstetrics and gynecology. In 1875, solely because of merit, he was appointed Professor of Obstetrics in the University of Pavia. He was much impressed by the serious difficulties which sometimes arise when fibroids obstruct

labour, and during 1874-75 he made many experiments in removing the uterus of pregnant rabbits; he also practised hysterectomy on the cadaver. On 21st May 1876, he for the first time performed on the living subject the operation with which his name was afterwards associated. It was entirely successful both as to mother and child. In 1882, after seven years' incumbency, Porro resigned his chair in Pavia and returned to Milan as Director of the Maternity Hospital. He devoted much time to sanitary and medico-legal work, and effected many improvements in the sanitation of hospitals. He published many papers on obstetrical and gynecological subjects. It has been remarked that, although he had an enormous clientèle, he did very few operations, the reason assigned being that he looked more to future than to immediate results. In 1891 he was elevated to the dignity of Senator. In 1901, the 25th anniversary of Porro's first hysterectomy, a medal was struck in commemoration, and Professor Truzzi was entrusted with the compilation of a record of all Porro operations performed throughout the world up to 21st May 1901. The scene on the streets of Milan on the day of Porro's funeral is said to have afforded a wonderful testimony to the affection and respect in which he was held.

The next name which no longer appears on our list of Honorary Fellows is one which used often to be named in association with Porro's, the name of one who introduced improvements in the technique of many gynecological operations—Max Sänger. He graduated at Leipzig in 1876. Two years later he was appointed assistant at the Gynecological Clinic of the University of Leipzig, where he enjoyed exceptional advantages under Credé, whose pupil he was, and who, from 1884 to 1887, allowed him to do major operations at the Clinic. After having been Privat-docent and Extraordinary Professor at Leipzig, he was in 1891 called to Prague as Ordinary Professor of Obstetrics and Gynecology. He gained a great reputation as a clinician, and it is said that he did not neglect even very small symptoms. He was a good operator, and was very careful as to asepsis; he is said also to have had the faculty of finding valuable practical help from theoretical considerations. Although his method of suture of the uterus in Cæsarean section was discontinued because it was too com-

plicated, he extended the indications for the conservative operation. He was one of the first to use ventrofixation of the uterus in retroflexion, and one of the first to recognise the dangers during the puerperium to women infected by gonorrhœa. He was a very voluminous writer. He did much investigation in connection with tumours of the uterine adnexa. His early death on 12th January 1903, at the age of 50, is a serious loss to obstetrics and gynecology.

In 1882 we elected as an Honorary Fellow of our Society, T. Gaillard Thomas, a man who had gained for himself a great reputation, especially in relation to gynecology, to whom, along with Marion Sims, belongs the credit of establishing as a science the study and practice of gynecology in America. In 1852 Gaillard Thomas landed in New York at the age of 20. He had little money, few acquaintances, and no friends, but he had an M.D. diploma, and he was full of enthusiasm for his profession, and had the determination to do great things. After having, with great credit, filled the office of Resident in Bellevue Fever Hospital, he came to Europe and gave special attention to obstetrics at the Rotunda Hospital, Dublin, and after eighteen months he returned to New York. He had the good fortune to be taken into partnership by the leading practitioner in that city. He began to lecture on obstetrics. His first lecture was a failure. He recognised the cause, studied English literature, and delivered his lectures before a mirror in his own room. He attained the greatest success, and later he was described as the greatest medical orator of his time. In 1863 he was appointed Professor of Obstetrics and Diseases of Women and Children at the College of Physicians and Surgeons, which office he held until the work was divided. He was then appointed Professor of Gynecology, and he specialised in that department. He was one of the founders of the American Society of Gynecology. He published a considerable number of articles on gynecological and abdominal surgery, and in 1869 he published "A Practical Treatise on the Diseases of Women," which passed through five editions, and a sixth edition was revised by Paul Mundé, another of our Honorary Fellows, to whom reference has already been made. He retained his enthusiasm even to advanced years; he kept himself abreast of the progress of the times, but he accepted only that which, after investigation, satisfied his

judgment. On 21st November 1901 there was a great gathering of eminent gynecologists in New York in honour of Gaillard Thomas's 70th birthday, and the 50th anniversary of his entrance to the medical profession. He received a great ovation, and a large number of telegrams and addresses from scientific societies and the savants of Europe and America. He died suddenly on 28th February 1903.

Another of our Honorary Fellows, Professor William Smoult Playfair, died at St Andrews on 13th August 1903. He was a member of a distinguished St Andrews family, and a brother of Lord Playfair, who, when Professor of Chemistry in Edinburgh University, stood high in the regard of his students. Professor William Smoult Playfair studied in Edinburgh at the same time as our friend Professor Simpson. In virtue of his ability as an obstetrician, he acquired an extensive practice, and had the honour of attending the Duchess of Edinburgh, the Duchess of Connaught, and other ladies of high position. His treatise on "The Science and Practice of Midwifery" has had a very wide circulation, and has been translated into several foreign languages. During the twenty-five years he was Professor of Obstetrics at King's College, London, he imparted a knowledge of his science to a large number of those who are now in active practice. He was co-editor with Professor Clifford Allbutt of a "System of Gynecology." His experience in the Law Courts, in consequence of an alleged breach of professional confidence, impressed upon medical men the importance of avoiding reference in the family circle to their patients' ailments.

During the past two years we have lost by death no fewer than nine Corresponding Fellows, viz., during 1902: Dr Jn. Boyd, Slamannan; Dr F. G. Figg, Australia; Dr J. More Madden, Dublin; and Dr David Murray, London; during 1903: Dr Hartmann, St Petersburg; Professor Hubbard, Connecticut; Professor Krassowski, St Petersburg; Dr Ropes, Boston, U.S.A.; and Dr Geo. W. Balfour, Edinburgh. Of these I shall make special reference to two only, viz.:—

Dr Thomas More Madden, F.R.C.S.Ed., who died in Dublin at the age of 64, was elected a Corresponding Fellow of this Society in 1871. He settled in Dublin in 1868. After having served as Assistant in the Rotunda Lying-in

Hospital, he was appointed Obstetric Physician to the Mater Misericordiae Hospital, an appointment which he continued to hold up to the time of his death. He was also for many years Consulting Physician to the Temple Street Hospital for Sick Children. He expressed strong views on the neglect of physical culture in children, and on the effects produced in them by the indiscriminate use of alcohol. In 1870 he made a communication to our Society on the immediate treatment of laceration of the perinæum. He made many contributions to medical literature, and received numerous recognitions of his work from medical and other learned societies.

As a physician, Dr George William Balfour held a position in the first rank. He was elected a Fellow of this Society in 1847. There are still alive two veterans who were elected at an earlier date than he, viz., Dr Alexander Peddie in 1840, and Dr George Keith in 1845. Dr Balfour was elected a Corresponding Fellow in 1898, the year in which he relinquished practice and retired to Colinton, the home of his boyhood. He died there in August 1903. Although he was somewhat delicate in his early years, he reached the age of 80. Probably his daily walk from Colinton to school in Edinburgh helped to remove his earlier delicacy. After graduating he went to Vienna, where he studied under Skoda, and brought back with him new ideas as to exactness in physical diagnosis, and also as to the power of the *vis medicatrix naturæ*, and he based on this his strenuous opposition to the older methods of treating acute diseases. He took an active interest in questions relating to medical education, especially the medical education of women. He held many important offices, and had bestowed on him well-merited distinctions. Although he did not in the memory of our present Fellows take any active interest in the work of our Society, he will be much missed by the senior Fellows at least. We had pleasure from his lectures, from his books, and in our friendly relations with him. He was also a trusted adviser, especially in difficult heart cases.

Of Ordinary Fellows we have lost seven, viz., in 1902: Dr R. Peel Ritchie, Edinburgh; Dr Arthur Oakes, Bexhill-on-Sea; Dr Walter Scott Gibson, London; Dr Robert Mair, Hawick; in 1903: Dr Stewart Stirling, Edinburgh; Dr

W. B. Macdonald, Dunbar; and Jn. A. Robertson, Matjesfontein, So. Africa.

Dr R. Peel Ritchie was born and educated in Edinburgh. After graduation he was Resident Physician in the Bethnal House Asylum, London, and thereafter he began practice in Edinburgh. He was specially interested in midwifery and in the diseases of children. For many years he was one of the Physicians to the Royal Hospital for Sick Children. He was elected a Fellow of this Society in 1861, and for a long period he took an active part in its work. He was Secretary from 1865 to 1873; on two different occasions, viz., 1874-75 and 1878-9, he was a Vice-President; and he edited the first four volumes of our Transactions, containing a record of our proceedings from 1868-69 to 1876-77. The earlier volume he edited in conjunction with the late Dr James Young, and the last one along with Dr Underhill. In 1871 he read three papers at our meetings, but since 1880 he did not take any active part in our work. He occupied several positions of responsibility in our city; in the Royal College of Physicians he was for many years Treasurer, and afterwards he was raised to the honourable position of President.

Most of those whom we have no longer on our roll it has been possible for me only to mention by name, but although, whether from want of opportunity, or from lack of originality, or from engrossment in the work of ordinary practice, they did not stand out prominently among their fellows, and their names are not written large in the annals of our science, it by no means follows that they lived less useful lives. I do not know of any sphere of life in which there are greater possibilities of usefulness to mankind than that which is afforded by the practice of medicine.

While our Society is poorer by the loss of so many men, including those eminent in their profession, who had done much for the advancement of science and for the relief of the troubles of womankind, we are richer by the addition of six Honorary Fellows and forty-three Ordinary Fellows (in 1902 two Honorary and twenty-two Ordinary, and in 1903 four Honorary and twenty-one Ordinary Fellows). The number of Ordinary Fellows added during the previous two years was forty-nine, six more than during the later period. The net increase in the

number of Ordinary Fellows during the past two years is twenty-two. The total number of Ordinary Fellows on roll is 449.

The last two sessions have not fallen behind many of those which preceded them in the value and interest of specimens and papers submitted, and the Society may be congratulated on the interest taken in its work, as evidenced by the attendances at the meetings and by the number of Fellows who took an active part in them. During the session 1901-2, five non-resident Fellows made communications to the Society, and during the last session we had the pleasure of listening to no fewer than nine papers by non-resident Fellows. It is also full of promise for our future that so many of the younger Fellows have taken an active part in the business.

Before giving a short summary of our work, I desire to refer to a subject which is of very great importance to the Edinburgh Medical School. You doubtless remember that Dr Milne Murray, in his valedictory address, referred to various difficulties in the carrying on, in a continuously satisfactory manner, the work in the Maternity Hospital, and he made certain suggestions which, he thought, might conduce to the removal of these; he also made proposals as to the better education of students in Obstetrics. These matters were submitted to your Council. Two meetings were held, and after careful consideration a few suggestions were submitted to the Medical Staff of the Maternity Hospital in relation to the former subject; the Council felt, however, that they had no power to deal with the other question. Now, whether it be by the establishment of a residence for students during their practical training in Obstetrics, or by that and other methods to bring us into line with other centres of education, it is important that something be done to retain in Edinburgh some of the more eager students who seek their practical obstetric training elsewhere. There always have been, and there will continue to be, men who desire to take part of their training in another school, and it is well that they should have their experience enlarged by this means; but the migration to which I refer, takes origin in consequence of what are considered by the students to be imperfections in practical training in this department in Edinburgh.

The mention of Dr Milne Murray's name constrains me to

express our sympathy with him because of his prolonged illness, our great regret that we have not had the benefit of his presence and counsel at our meetings, and our earnest hope that he may soon be restored to health.

The exhibition of pathological specimens has, as in past years, proved a most important and instructive part of our work. The method of exhibition hitherto followed required divided attention—listening to the description of one specimen, and at the same time endeavouring to make the examination of another; furthermore, by the time any Fellow had examined any specimen the opportunity for obtaining further information, if such were desired, had passed. In order to avoid these difficulties, and at the same time to enable much valuable material to be of greater use, the Council has resolved that pathological specimens should be exhibited as card-specimens at a quarter before eight o'clock; but Fellows exhibiting these specimens may describe them at the beginning of the meetings as hitherto, and all specimens exhibited may be made the subject of discussion as heretofore, with the further advantage of increased facilities for the examination of them previously.

However great the value of the specimens which we saw during the past two sessions, it would be tiresome to you were I to attempt any detailed review of them. It is an advantage that by the formalin method we have the natural form and colour so much better preserved than by any former method. We saw several specimens of the cervix uteri beautifully preserved in this way. It is an area which is as yet one of the regions of difficulty of diagnosis. The work done by our Fellows in relation to it marks an advance in our knowledge of it.

Of cancer of the uterus we had many specimens. One evening no fewer than four in which vaginal hysterectomy had been performed for cancer (Croom).

A large number of examples of fibro-myomata of the uterus presented peculiar points of interest in relation to size, position, character of growth, degenerations and other changes. For example, one fibroid weighed 52 lbs., one fibroid was complicated with ovarian cyst and umbilical cyst (both Prof. Simpson), in two the cervix was seriously involved (Haultain), others were soft (Lackie), one was vascular and œdematous (Fordyce),

one was calcified (Haultain), others were associated with sarcoma (Scott Macgregor) or with cancer (Haultain). A fibroid in a case of seven months pregnancy was removed by Porro-Cæsarean section (Sir Halliday Croom). In some instances the fibroid alone was removed, two of them during pregnancy, without interrupting it. We saw one large fibroid which was removed four years after oöphorectomy had been performed (Croom), and one fibroid uterus which had to be removed after electrical treatment had failed (Haultain). We also saw two fibroids which had originated in the broad ligament.

Of the Fallopian tubes we saw specimens of various diseases affecting one or both sides, also a rare specimen of concretion from a tube.

Of ovarian disease we saw many examples, cystic and solid, also malignant disease. In some cases both ovaries were cystic, and it was noted that in one case the sister also had both ovaries removed for cystic disease. We saw also one case of ovarian cyst with double pyosalpinx which had ruptured into the bowel.

The accounts given with many of the cases reminded us that in opening the abdomen it is necessary that the operator be prepared for all kinds of emergencies, and that it is occasionally necessary to do a much more extensive operation than was anticipated.

Of specimens related to pregnancy we saw one very interesting early pregnancy with two chorionic sacs of apparently the same age, also a case of placenta prævia at the seventh month. We had presented to us many specimens of ectopic gestation, some of them associated with other peculiarities of tubes or of ovary, and one in association with a parovarian tumour.

Dr Munro Kerr added one more to the slowly increasing number of examples of primary ovarian pregnancy. One specimen of ectopic gestation was the second occurrence in the same patient within a year (Haultain). It seemed to be the general opinion that, in cases of ectopic gestation not diagnosed before rupture, it is prudent to wait until the patient has recovered from the shock at the time of rupture, and to operate as soon as possible thereafter.

The Society had also presented to it many examples of developmental peculiarities of the fœtus. One in particular, exhibited by Dr J. W. Ballantyne, showed an exceptionally large number of abnormalities.

There were also shown some specimens of calculi from pelvis of kidney, two tubercular kidneys (Berry Hart), and one very large kidney weighing 42 lbs. which consisted mainly of inspissated pus (Brewis).

Of new instruments, three were exhibited. Thumin's angiotribe, a cephalometer for antenatal mensuration, and Bossi's dilator, which has already proved a valuable instrument in the hands of several of our Fellows.

We had the privilege of listening to a large number of papers, which I may without any figure of speech characterise as very interesting and important, some of them clinical, some more purely scientific. While the former may sometimes be considered to be of more immediate practical value, we must remember that many of our most important advances in practice have arisen directly from what at first sight seemed to be purely scientific investigations calculated to lend themselves only to academic discussion. Both classes of communications are of great importance to such a society as ours is.

It may not be uninteresting to the Society to have recalled briefly the subjects and some of the most important points brought under our notice in these communications.

The importance of estimating the relative size of the fœtal head and the maternal pelvis in medium degrees of pelvic deformity was discussed by Dr Munro Kerr, and he described his mode of combining the methods of Müller and Pinard, whereby the examiner is able to make the investigation unaided. It is difficult to estimate the direction and amount of force used by an assistant.

A record of experimental measurements of the pelvis by Dr Sandstein showed in what direction the pubic segments move after symphysotomy; he explained the cause of the movement in these directions, and the gain in size at the brim in consequence of each movement. He also referred indirectly to the advantage gained by the Walcher position.

Dr Michael Dewar, who has had a large experience in

midwifery, gave us his views on the use and abuse of forceps in general practice. He showed that, while meddlesome midwifery is bad, there is considerable advantage to both mother and child if forceps be used when there is undue delay in progress.

Sometimes, in order to save life, it is necessary to undertake serious operative interference in unfavourable surroundings. Dr Buist gave us his experience of the difficulties of performing symphysotomy in private dwellings. He did three cases under trying and unfavourable conditions and two in the Maternity Hospital, Dundee. These were all in a class of patient in which the prospect of life for a premature child is not good. In one case the child was dead-born, because the membranes had ruptured two days before Dr Buist was sent for. The other cases were all successful. On the first occasion he did Frank's operation, on the succeeding ones Ayre's subcutaneous operation.

Records of two rare cases were presented. One by Dr Haultain, the expulsion of a dermoid ovarian cyst, *per vaginam* during labour, and he discussed the treatment which should be adopted in cases of labour obstructed by intra-pelvic ovarian tumour, recommending reposition if possible, and removal by operation within twenty-four hours after labour was completed; if reposition were impossible, removal at once *per vaginam*. The other case was reported by Dr Milne Murray, viz., the spontaneous rupture of an apparently normal uterus at the commencement of labour. This appeared to be a very unpromising case for operation, because of the feeble condition of the woman; the result, however, was satisfactory. This case, along with others which we had before us, stands in wonderful contrast to the results of a large number of laparotomies which were done before the introduction of an aseptic system of surgery. Dr Milne Murray did not, in his case, spend much time on the toilette of the peritoneal cavity, even although the viscera were stained by meconium, trusting to the influence of the peritoneum when an aseptic method was followed. He had in his favour the circumstance that the rupture took place at the commencement of labour and not some time after the rupture of membranes, nor after the use of forceps.

Dr Berry Hart described a rare case of full-time intact

extra-peritoneal gestation which he had successfully removed after it had been retained five years.

Dr Lackie recorded six cases illustrating different causes of fever during the puerperium not directly due to the confinement, which nevertheless presented difficulties in diagnosis, and caused some anxiety at the time. The details of these cases met with a sympathetic hearing.

Albuminuria, eclampsia, and the auto-intoxications of pregnancy were the subjects of five papers. The prophylaxis and treatment were carefully considered and the use of thyroid extract was advocated. In the treatment of two cases, the advantage of Bossi's dilator was recorded. The etiology of the albuminuria of pregnancy has yet to be solved; its study has been hindered by the failure to differentiate the various causes of albumin in the urine in different cases, and also because many have failed to realise which symptoms are essential and which are accidental in its course.

Dr Munro Kerr presented a paper on the third stage of labour in the light of observations made during Cæsarean section. Dr Munro Kerr observed a separation of the two walls during contraction of the uterus. The question arose as to how far one may apply observations on phenomena observed in an opened uterus in explanation of those which take place in the uterus when it is entire.

In July 1902, at a joint meeting with the Obstetrical and Gynecological Society of Glasgow, which was held in Edinburgh, we had a valuable discussion on "Hæmorrhage during the later months of Pregnancy and early stages of Labour." The questions in relation thereto were submitted in a very lucid and systematic paper by Professor Jardine—late President of the Glasgow Society—and a large number of the Fellows of both societies contributed to the discussion.

Dr Berry Hart read a paper on the nature of the tuberose mole. He believes that it is caused by an undue blocking of the serotinal sinuses in the large celled layer, and that in consequence of this extensive blocking there is the death of the fœtus. The death of the fœtus is secondary.

Dr Berry Hart also made a communication on the relation of hydatid mole to deciduoma malignum, or as he would prefer to call it, metastatic mole, but which I think we may now safely

call chorioepithelioma. Dr Hart in a former paper attributed hydatid mole to the primary death of the fœtus before the development of the thyroid. He believes, that in consequence of the absence of thyroid secretion, chorionic tissues remain an undifferentiated tissue; that syncytium and Langhans' layer retain their destructive activity; and that if part of the mole be retained its phagocytic power continues; that it penetrates blood-vessels and produces metastases. He discussed whether it were possible by examination of a mole to foretell whether metastatic mole would ultimately develop, and decided in the negative. The discussion led to the conclusion that if large syncytial masses were found at a second curetting the uterus should be removed.

Great improvements have of late years been accomplished in abdominal surgery. The comparative safety with which the abdomen can be opened led to a considerable increase in exploratory operations. Professor Fehling—one of our Honorary Fellows—in a valuable paper sounded a note of warning lest the facility of exploratory operations should diminish the cultivation of and care in the use of other methods of diagnosis. He advocated strongly that gynecologists should endeavour further to develop non-operative methods of diagnosis. I suppose that we all agree with Professor Fehling. At the same time, independently of exploratory operations, the power of diagnosing abdominal disease is advancing, and although cases of great difficulty are met with, the diseases of abdominal and pelvic organs are much more correctly diagnosed than formerly.

The difficulties of emergencies and accidents during operations on the abdomen have on several occasions been brought before us. Several of these were recorded in an interesting paper by Dr Haig Ferguson. Dr A. E. Morison, Hartlepool, described five cases of abdominal section for emergencies during pregnancy.

Dr Haultain read a paper on the treatment of uterine fibromyomata with a highly satisfactory record of twenty-eight consecutive successful cases of abdominal hysterectomy by the supravaginal method. This communication was full of interest, not only to those Fellows who undertake operative gynecology, but to all the Fellows, because a record of this kind enables

them to view with less anxiety those cases in which excessive hæmorrhage or serious pressure symptoms are present. We should, however, have discrimination in our recommendations, even in view of so good a record. Symptoms which about the age of forty would lead us to advise operation would not necessarily at the age of fifty call for similar advice.

Dr Brewis' two cases of cancer of the cervix at the fifth month of pregnancy, treated by pan-hysterectomy, showed the advantage of careful diagnosis and treatment as early as possible. In cases of operable cancer discovered during the early months of pregnancy Dr Brewis prefers vaginal hysterectomy; during the later months he was, on the whole, inclined to advise Cæsarean section and pan-hysterectomy; and in cases of advanced cancer, as soon as the child is viable, Cæsarean section and hysterectomy, the diseased cervix to be covered by peritoneum.

The discussion at the joint meeting, which was held last June in Glasgow, on "The Selection of Methods in Abdominal Hysterectomy," was opened by Dr Howard Kelly of Baltimore—the Honorary President of the Glasgow Society—in a masterly, striking, and clear speech. He spoke strongly in favour of conservatism in dealing with the pelvic organs, and he described various methods of performing hysterectomy and the indications for each. Several Fellows of both societies made important and practical contributions to the discussion.

This meeting and that which was held in Edinburgh in 1902, with the social gathering which followed each of them were noteworthy, apart from their scientific value, because meetings of that kind permit—

> "Man with brother man to meet,
> And as a brother kindly greet."

They also draw together two societies which are working for the common weal.

Dr D. A. Callender read notes of a case of Epithelioma of the Vulva, a somewhat rare disease.

A case of Papillary Cyst of the Labium Minus was described by Dr Jessie Macgregor. The interest in this case arose mainly in relation to the origin of the growth.

In pediatrics, a subject which is obtaining an increasing

amount of attention, especially on the Continent, was brought before the Society by Dr J. W. Ballantyne in a paper on "The Problem of the Immature Infant," maturity not being determined by age, but by development.

Dr Church, at the last meeting of the Society, submitted a paper on a kindred subject, "The Influence on the Child of the Overlapping of Lactation and Pregnancy," in which he concluded, from a record of ten cases, that the concurrence is detrimental to all three individuals involved, but specially to the vital power of the child *in utero*.

Dr Angus Macdonald read a paper on Fatal Tracheal Compression by Enlarged Thyroid in a newly-born infant.

Acute Pyelitis in the infant—a somewhat uncommon disease—presenting serious symptoms and tedious in its course if not recognised, but very amenable to treatment when diagnosed and suitably treated, formed the subject of an important paper by Dr Jn. Thomson.

The Society had two papers on developmental questions, each of which papers had involved much work and study. One by Dr Berry Hart on "The Development of the Amnion and Cord," the other by Dr Richard J. A. Berry on the anatomical variations presented by two cases of twin monsters, with an account of their developmental explanation. Dr Berry concluded that bilateral segmentation is unnecessary for the production of twins, but that they may arise from two primitive grooves developed side by side on a single ovum.

And now, Ladies and Gentlemen, I demit the office to which, two years ago, you did me the great honour to elect me. I again thank you for your goodness. I can assure the conscientious and very able man whom you have elected to succeed me, that he will find the duties a source of pleasure to him, and I venture to predict that under his wise guidance the sixty-fifth session of our Society will be a profitable one.

THE RADICAL CURE OF FEMORAL HERNIA. A MODIFICATION OF THE AUTHOR'S OPERATION.

By JAMES H. NICOLL,
Professor of Surgery in Anderson's College, Glasgow.

FEMORAL HERNIÆ, as met in practice, fall into one or other of two classes in the matter of operative procedure.

The simpler cases, small herniæ without intra-abdominal tension or other complication, are capable of radical cure by the simplest of measures. Such cases have been repeatedly cured by operative procedures undertaken for the relief of strangulation, and in no way intended to serve as the means of radical cure. In these slighter cases any of the simpler forms of operation may be depended on to effect a cure. Mere ablation of the sac or of its lumen by any method is frequently effective. The "purse-string" suture of Cushing, Fortunato (1), Curtis (2), and others, popularised by Coley (3), Kocher's operation, and the more or less similar suture operations of Bassini (4), Franz (5), Fabricius (6), Bottini (7), and others, may all be relied on to secure the permanent disappearance of the hernia.

The more severe cases, on the other hand, large herniæ in patients with corpulent abdomen or other unfavourable feature, are apt to tax the principles of the most ingeniously devised methods. The difficulties of radical cure in these cases have been such as to lead surgeons of large experience to propose operative measures sufficiently striking. Thus, the canal is to be plugged by the healing in of glass balls, of wire gauze, or even [Chaput (8)] of transplanted costal cartilage, or closed by operating from within the abdomen after preliminary laparotomy, or by way of the inguinal region [Ruggi (9), Nassi (10), Parlavecchio (11)]. Buonamici (12) closed the canal by making use of the fascia transversalis, and Gordon (13) by displacing the conjoined tendon of the internal oblique and transversalis muscles from the inguinal to the femoral region. Flaps of bone and periosteum have been turned over from the os pubis [Trendelenburg, Kraske (14), and others], while

musculo-fascial flaps have been turned up from the pectineus [Watson Cheyne (15), Saltzer (16), Prokupin (17), and others] and from the adductor longus of the thigh [Schwartz (18)].

The following method of operating, described at the meeting of the British Medical Association in Manchester, in August 1902, I originally adopted for the more severe and unfavourable cases of femoral hernia only, but have come to regard the precision of the closure effected by it as sufficient inducement to extend its practice to all cases. The use of the sac to form a buttress on the abdominal aspect of the ring, and the closure of the canal by restoring its boundaries to their natural relations (and not by the transplantation of neighbouring structures), are ideas familiar in the operative treatment of hernia, and rendered classic by Macewen in his operation for inguinal hernia. This restoration may be accomplished in femoral hernia with a degree of precision and completeness not, I believe, attainable in any other form of hernia, inasmuch as of the four boundaries of the femoral ring or canal, two only—the anterior and the external—are displaced by the descent of the hernia, the posterior (pubic ramus) and the internal (Gimbernat's ligament) being incapable of displacement. By fixing the anterior boundary (Poupart's ligament) to the posterior (the ramus of the os pubis), an absolute closure of the femoral ring to the extent desired is readily attained. There is nothing, therefore, novel in the principles involved in the two parts of the operation. The technique alone demands description, and it is as follows :—

Operation.

This consists of two parts :—

(*A*) *Obliteration of the Sac*, also of the peritoneal depression over the abdominal aspect of the ring, and the substitution of a buttress over the internal aspect of the ring :—

1. Expose the sac, and clear it from surrounding tissues (the skin incision may be vertical or transverse).

2. Open the sac longitudinally in its middle line, and clear of contents.

3. Separate it from parts surrounding its neck, including the transversalis and the iliac fasciæ for one inch round the abdominal aspect of the ring.

4. Bisect the sac longitudinally from fundus to neck (Fig. 1).

5. Make an aperture in one half near the neck (Fig. 1).

6. Interlock the halves by putting the other through the aperture (Fig. 2). In certain cases it lies better if previously twisted one half turn on its longitudinal axis.

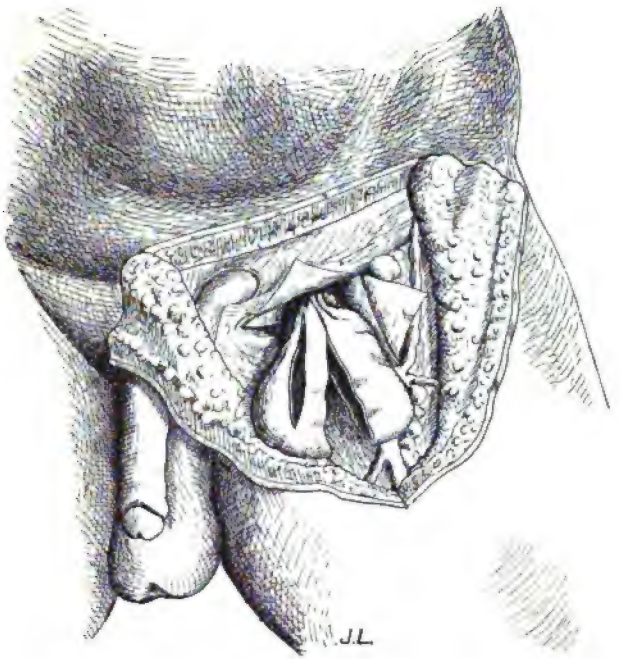

FIG. 1.

Sac emptied, detached from surrounding parts, including internal aspect of abdominal wall for 1 inch round femoral ring; split longitudinally, and one half incised for passage of the other.

7. Reduce the whole sac through the femoral ring into the extraperitoneal space previously cleared for it by detaching its neck from the abdominal aspect of the ring. The sac thus lies bunched up within the abdomen, between the peritoneum and the transversalis and iliac fasciæ over the internal aperture of the femoral canal.

Where the sac is unnecessarily large, part of it may be cut away before reducing it through the canal.

(*B*) *Closure of the Femoral Ring :—*

1. Carry an incision (bone-deep) from the femoral vein along the pubic ramus to the region of the pubic spine. This divides the pubic portion of the fascia lata, the origin of the pectineus, and the periosteum. Its length will depend on the extent to which the femoral vein has been displaced outwards by the presence of the hernia, and will vary from one inch to one inch and a half.

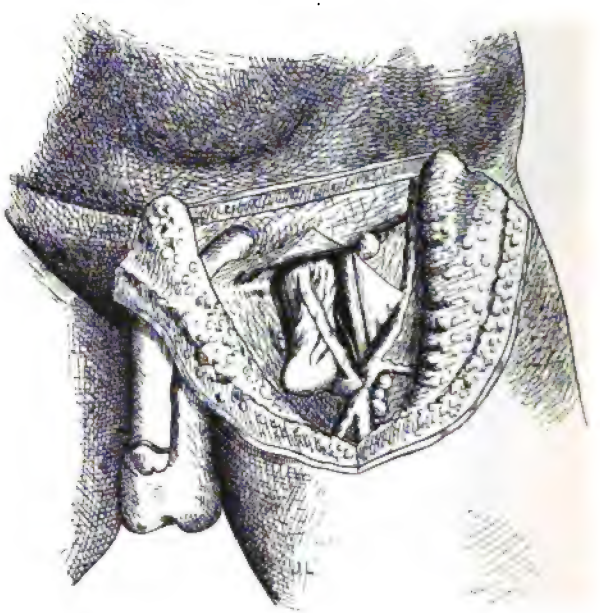

FIG. 2.

Sac ready for reduction, with halves interlocked. (The situation of the aperture in the sac in Figs. 1 and 2, and the relative positions of the two halves of the sac in Fig. 2, are not, in the interests of semidiagrammatic clearness in the drawings, quite those of actual practice.)

2. Detach the periosteum to a limited extent, and retract it.

3. Drill the bone near its upper edge in two places ½ inch to 1 inch apart (one drillhole may be made to suffice). Any bone drill or punch may be used. In the illustration (Fig. 3) the simple hand drill, and the tongue depressor used as a protecting spatula, are those I commonly employ.

4. Pass through one of the apertures a loop of stout catgut,

or other absorbable ligature (Fig. 3). This may be passed by threading it in the eye of a curved surgical needle, or by pushing it through, simply doubled on itself. It is, however, more easily passed by threading it in the eye of the bone drill or in the eye of an ordinary surgical probe. For the purpose I employ a special probe in which the eye is small and

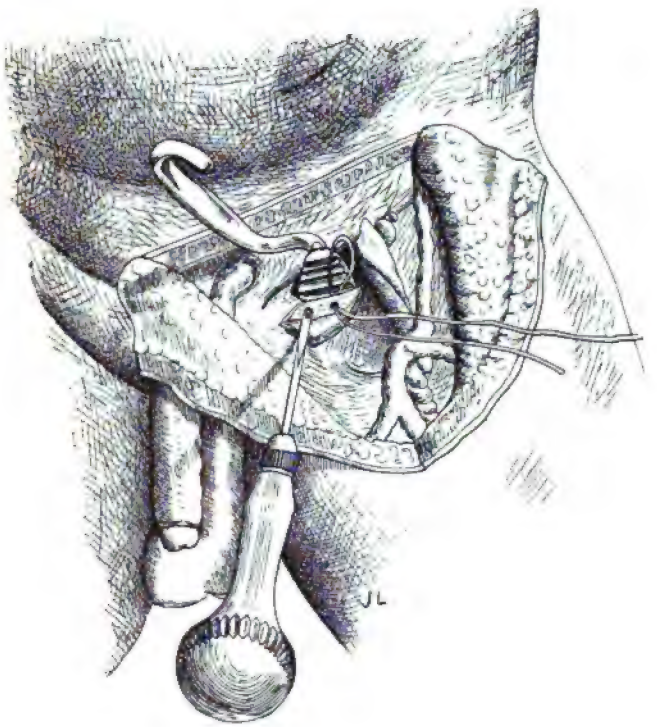

FIG. 3.

Closure of ring; drilling of bone; looped catgut suture passed through first drillhole.

placed very near the extremity of the handle (Fig. 4). The advantage of that shape and position of the eye will be obvious to those familiar with drills for wiring fractures, or to anyone in his first performance of this operation. With such a probe the operation is of the simplest; without it some difficulty may be experienced in passing the sutures through the one aperture and withdrawing them through the other. The probe should be of the ordinary pliable type.

5. Divide the loop of ligature. Thread one end in a large curved surgical needle and pass it as a mattress suture through Poupart's ligament. Unthread it from the needle (Fig. 4).

Repeat this with the second end, carrying it through Poupart's ligament at a higher level (Fig. 4), avoiding the

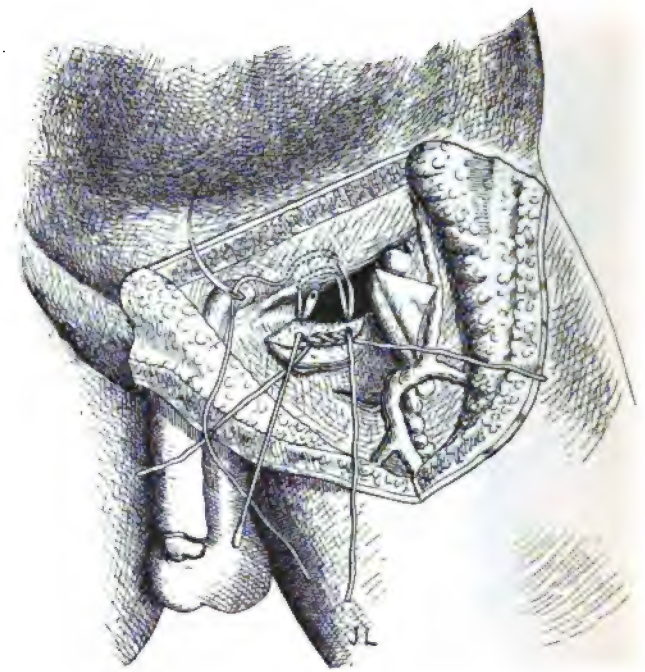

FIG. 4.

Closure of ring; placing of the loops in Poupart's ligament, and return of the ends through second drillhole. (One loop tied loosely to indicate action in pulling Poupart's ligament down to postero-superior aspect of ramus of os pubis.)

deep epigastric artery to the outer side, and, in male patients, the spermatic cord above. (In very large herniæ the loops, instead of being placed the one directly above the level of the other, as figured, may be made to diverge in the ligament so as to "gather in" the margin of the aperture.)

6. By means of the probe (into the eye of which the ends are threaded), withdraw both ligatures through the second drillhole in the bone (Fig. 4). It is in this part of the operation that the special probe is of particular advantage.

7. Tie the ends of each loop separately over the front of the bone, thus bringing Poupart's ligament down to the postero-superior surface of the bone and fixing it firmly in contact with that surface, constituting what is in effect an extension outwards of Gimbernat's ligament, and absolutely closing the femoral ring to whatever extent may be desired,

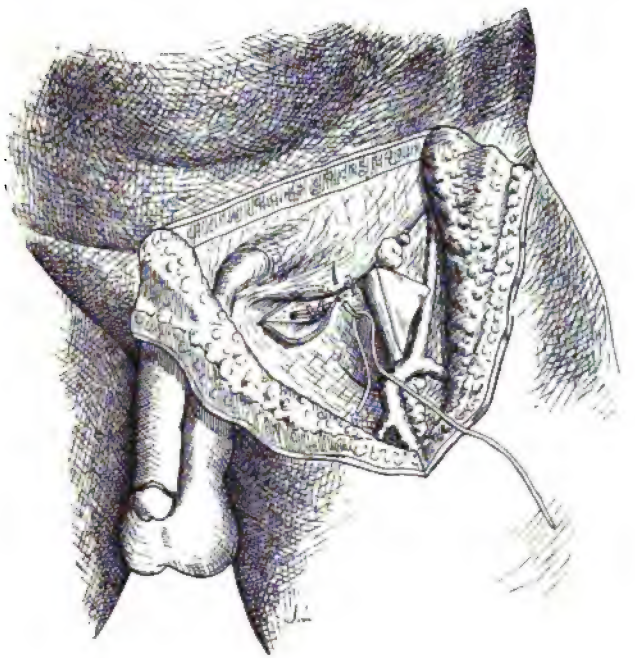

FIG. 5.
Closure of ring; bone sutures tied; completion of closure by suture of fascia lata and pectineus to the fixed Poupart's ligament.

due regard being paid to the amenity of the femoral vein. The degree of occlusion is regulated by the position of the sutures in Poupart's ligament, but not by the tension with which they are tied. This latter does not vary, the knots being tied in all cases firmly to bring the ligament into contact with the bone (Figs. 4 and 5).

8. To make the closure doubly secure, complete the operation by uniting, by interrupted catgut sutures, the detached margin of the pectineal origin, and the pubic portion of the fascia lata to the "anchored" Poupart's ligament (Fig. 5).

Remarks.—the operation is easily performed. The first part is simple by comparison with some of the known methods of dealing with the sac, while the second is no more difficult than many of the methods of suture employed in the closure of hernial apertures.

Method of Treating the Sac.—The manœuvre of returning the emptied sac through the canal of a hernia is not new. While descriptions of such operations may be found far back in surgical records, the practice was first put upon a formal footing by Sir William Macewen, and to his advocacy is due the general recognition of the great value of the buttress formed over the abdominal aspect of the ring by the puckered-up sac. Macewen, as is well known, puckers up the sac by a "gathering" suture which, passed through the hernial canal and out through the parietes, is made the means of puckering up the sac on the abdominal aspect of the ring. Variations of the technique by which Macewen's object is attained have been introduced by other surgeons [*vide*, for example, the operations of Davis (19) and Packard (20)], and the method described above is but one of these variations.

The absence of all sutures in the sac has three advantages:—

1. The obvious saving of time.

2. Avoidance of the recognised risk of strangulation, and consequent sloughing, of the puckered-up sac in the grasp of the ligature.

3. The facility with which the entire sac may be placed within the abdomen. A suture emerging from the neck of a large sac may, while pulling the neck within the abdomen, by anchoring it to the parietes, leave the bulky fundus blocked in the canal. The absence of a suture permits the interlocked sac to be pushed as far within the abdomen as may be desired.

Against these advantages there is to be placed, I believe, one disadvantage, and that a minor one, involved in the absence of suture, namely, that the fixing of the sac in position depends on the tying of the sutures closing the ring, and not upon a special sac suture, and that, therefore, it is necessary, particularly in cases where the patient has "strained" between the placing of the sac and the tying of the ring sutures, to verify and, if need be, adjust the position of the sac before tying the

sutures closing the ring. Once tied, these sutures close the ring absolutely, and no prolapse of the sac into the canal is possible. In femoral hernia I have never seen any tendency of the sac to prolapse before closure of the ring, but I have seen it in several cases of inguinal hernia. The explanation may lie in the fact that the inguinal rings are more freely affected by "straining" or deep respiration than is the femoral.

Method of Closure of the Femoral Aperture.—In looking into the literature of the subject, I find that Roux (21) has also been carrying out in the closure of the ring the idea of attaching Poupart's ligament directly to the bone, though employing a different method to attain that end, namely, the use of a ∩-shaped metal nail driven through the ligament into the bone; and it is somewhat surprising that a further search (so far as the regrettable decease of the invaluable *Index Medicus* permits such to be made) should reveal no other references to the utilisation of so conveniently placed a *point d'appui* as is offered by the pubic ramus for the closure of the femoral ring on the classic principle of restoring its boundaries to their correct, or to an over-corrected, position.

The method of closing the ring above described, and which I had been practising for some time before I learned of Roux's independent work, is, in my probably too partial opinion, preferable to that adopted by Roux, for the following reasons:—

1. Roux's operation involves the introduction of a metal foreign body. The subsequent removal of this, if desired, involves a second operation, with the risk of detaching the ligament from the bone in withdrawing the nail. Its permanent retention, on the other hand, involves the chance of the loosening of the nail by absorption (possibly necrosis) of the bone, as occurs not infrequently with wire sutures in fractures. Should this occur, and the nail become dislodged from the bone by the natural pull of Poupart's ligament or otherwise, a state of matters is established in which every movement of the thigh or abdomen would menace the femoral vessels and the peritoneum with puncture by the points of the nail.

2. The method of suture employed in the operation I have described brings Poupart's ligament down to the postero-superior surface of the bone, attaching it there in the region of the ileo-pectineal line on the plane of Gimbernat's ligament,

constituting virtually an artificial extension of that ligament. The effect of such an attachment, as a study of the anatomy of the region will show, is to occlude the femoral aperture at its extreme upper (inner) end (the plane of Gimbernat's ligament), thus shutting its mouth, instead of closing its throat as the attachment of Poupart's ligament to the superior or antero-superior surface of the bone does.

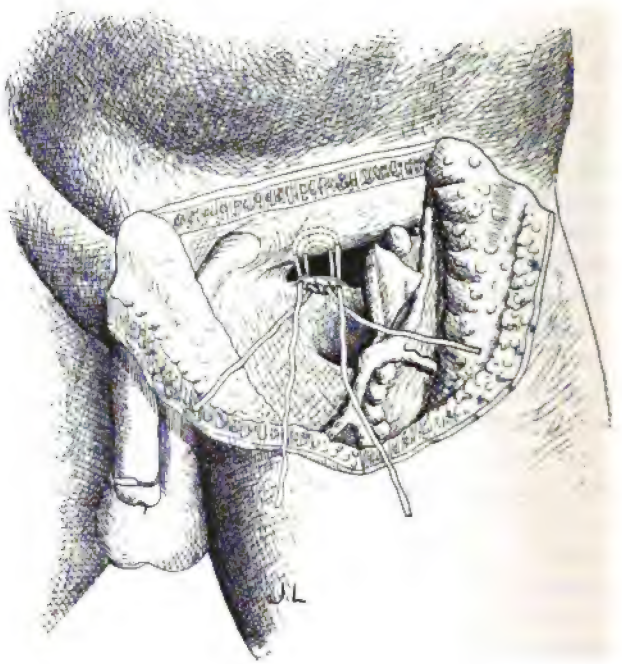

FIG. 6.

Anterior lip of periosteal incision raised in the form of a short periosteo-fascial flap through which the sutures have been passed.

3. By varying the position of the two mattress loops of ligature, or by making them diverge, in Poupart's ligament, it is easy to effectually close the largest femoral ring without exerting pressure on the femoral vein. The tension of the femoral sheath may be regulated with precision.

4. Roux's nail attaches Poupart's ligament to the periosteum. The operation above described attaches it independently to both bone and periosteum.

Modification of Operation.

The following modification is not intended as a regular substitute for the second part of the operation, the closure of the femoral canal. In effect it is less secure. It affords the means, however, of attaching Poupart's ligament in the desired position in cases where the operator is not supplied with a

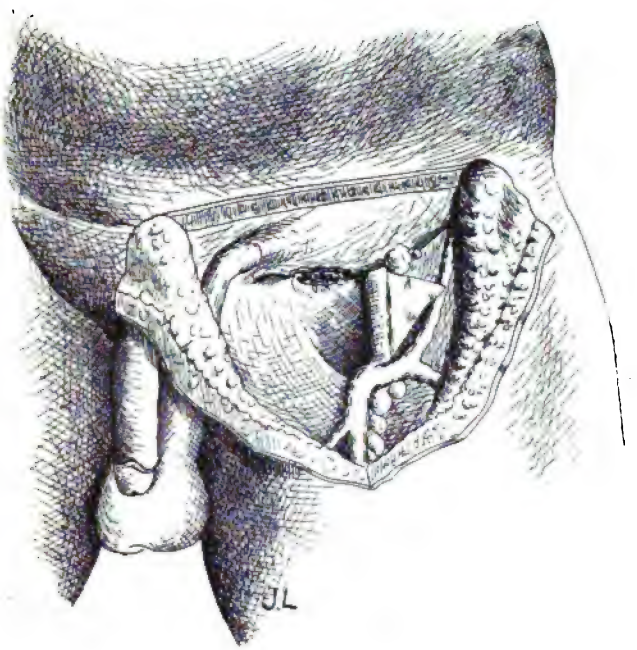

FIG. 7.

Suture knots tied on anterior (outer) aspect of anterior lip of periosteal incision, thus lodging the free margin of Poupart's ligament in the periosteal incision.

N.B.—In Figs. 6 and 7 the periosteal lip or flap is necessarily represented as raised too extensively, and, therefore, too long.

drill, as when hurriedly called to operate in a case of strangulation.

The sac having been reduced into the abdomen, and Poupart's ligament pushed back with a spatula, an incision is carried along the postero-superior aspect of the pubic ramus from the femoral vein to the pubic spine (or part of that distance). This divides the periosteum. Its anterior lip is then raised to a slight extent by any convenient elevator, such

as the flat end of an ordinary probe bent to a suitable angle, or the blade of a pair of curved scissors. The effect of this is to form a short periosteo-fascial flap, the size of which has, for the purposes of illustration, been exaggerated in Fig. 6.

With an ordinary curved surgical needle the catgut suture is carried through Poupart's ligament, divided, and the ends, again threaded in the needle, successively passed into the periosteal incision and out again through its anterior lip (Fig. 6). The tying of these ends lodges the free margin of Poupart's ligament in the periosteal incision on the postero-superior aspect of the bone, thus closing the canal (Fig. 7).

As already mentioned, the closure thus obtained is less secure than that resulting from the bone suture method. Further, if the periosteal incision be made too long, or the anterior lip be raised as far as it, necessarily, has been in the illustrations, the result will be the attachment of Poupart's ligament, not to the postero-superior, but to the superior surface of the bone, a much less efficient attachment.

To the skill and kindness of Dr John Lindsay, of Glasgow, I am indebted for the sketches forming the illustrations.

REFERENCES.

1. Fortunato, *Hildebrand: Jahresbericht*, 1897.
2. Curtis, quoted by Mayo, *Ann. of Surg.*, 1899.
3. Coley, *Ann. of Surg.*, 1901.
4. Bassini, *Lang. Archiv*, 1894.
5. Franz, *Deut. Zeitschr. f. Chir.*, Bd. li. Heft. 1.
6. Fabricius, *Wien. klin. Woch.*, 1895; *Centralbl. f. Chir.*, 1891.
7. Bottini, *Centralbl. f. Chir.*, 1894.
8. Chaput, *Bull. de la Soc. de Chir.*, No. 5.
9. Ruggi, *Methodo-Operativo Nuovo par la Cura Radicale dell' Ernia Crurale.*
10. Nasi, *La Clinica Chirurgica*, 1900, vol. 1.
11. Parlavecchio, *Il Policlinico Sessione Chirurgica*, fasc. 6, 1900.
12. Buonamici, *Hildebrand: Jahresbericht*, 1901.
13. Gordon, *British Medical Journal*, June 1900.
14. Kraske, *Deut. Med. Woch.*, 1893.
15. W. Cheyne, *Lancet*, 1892.
16. Saltzer, *Centralbl. f. Chir.*, 1892.
17. Prokupin, *Hildebrand: Jahresbericht*, 1898.
18. Schwartz, *Centralbl. f. Chir.*, 1893.
19. Davis, *Ann. of Surg.*, 1896.
20. Packard, *Trans. Amer. Surg. Assoc.*, 1895, vol. xiii.
21. Roux, *Anjou Méd.*, No. 2; *Hildebrand: Jahresbericht*, 1900.

Special Article

THE INQUEST ON THE EARL OF ATHOLL SCOTTISH TOXICOLOGY IN 1579

WHEN some young English or Scottish doctor, interested in the past and learned in Toxicology, takes up the subject of Poisoning in the middle ages, it will be a great gain to the science of history. Hitherto, speaking generally, it has usually fallen to laymen to investigate the accounts of the numerous poisonings or alleged poisonings which occur in the records of all countries; and though Bishop Crighton pointed out, in his excellent essay on the Borgia poisonings appended to the reign of Alexander VI. in his magnificent "History of the Papacy," that sudden death was always in the popular mind associated with poison, he, though a great historian and a distinguished churchman, was (in our contention) still a "layman" in this matter.

Poisoning was never a common vice in Scotland in the middle ages, and our history is singularly far from even the suspicion of it. The most notable case where it was suspected in early times was in the reign of King James IV.

King James was greatly desired to marry, but he loved too well Margaret Drummond the daughter of his kinsman, Lord Drummond. An English princess was proposed as Queen by his advisers, and various other candidates were offered. He clung to his mistress, however, and, it was thought, would marry her. The sequel was that Margaret Drummond and her sister "died suddenly," and poison was, not unnaturally, suspected. Nothing is certain, however, and the King, after due grief and some consolatory episodes, married in 1503 the Lady Margaret Tudor.

That is the most notorious "suspect" case in our annals, and the next is the one we shall now deal with more fully: that of the alleged poisoning, in 1579, of John Stewart, fourth Earl of Atholl, by the Regent, James Douglas, Earl of Morton, or by some creature instigated by him.

Atholl and the Regent were rivals. Atholl, the King's near kinsman, was a Catholic; Morton, a licentious man, but a fervent Protestant. In April 1578, during the minority of

King James VI., Atholl was made Chancellor at a time when Morton's star was clouded. They held aloof, though formally "reconciled," until March 1578-9, when Atholl appeared at the Council. Morton gave a great "reconciliation" feast at Stirling on April 20, and following on it Atholl, the chief guest, died suddenly on the 25th April. His loss was much felt, and King James wrote to the dead man's son that his body, as "our his nearest kinsman," should be conveyed to Edinburgh to the Church of St Giles, and "thair placed ewest our dearest Uncle and Regent [Moray] of good memorie."

No one for a moment dreamed that he had died a natural death, although a year before he had obtained a licence to leave the realm for the purpose of preserving his health. Spottiswoode writes,[1] "as report always speaketh the worst of great men's deaths, so the rumour at this time went, that Morton had made him away by poison"; and adds that, although a post-mortem examination (of a kind) was held, yet the Earl and Countess "took open protestation that the trial of the Council should not prejudge the criminal pursuit of which they intended before the justice." A fatal result followed. "The scandal was fostered a long time by a sort of ryming libels, which were afterwards tried to be composed by one Turnbull, a schoolmaster at Edinburgh, and another called Wm. Scott, who were executed for the same at Stirling in the end of the summer."

That the belief was widespread is undoubted. We see in the "Spanish State Papers" that Bernardino de Mendoza writes, 14th May 1579, to the King of Spain: "The Queen [Mary Queen of Scots] has received news from Scotland of the death of the Earl of Atholl, which happened so suddenly that they think it must be from poison," and describes (as we shall recount later) the subsequent inquests. Again he writes (6th July): "The son of the Earl of Atholl professes to be much offended at the death of his father, but has not armed to avenge him nor have any members of his party." Queen Mary had no doubt of the murder, and wrote to the widowed Countess, "My good Anti," referring to the "dealings off our fals traitours that (are) not content off yowr good Lord's death by poisoni(n)g him so vickedli."

But whatever Mendoza thought, the dead man's son did make

[1] History of the Church of Scotland, ii. 263.

some show of indignation. He delayed the funeral [until July 4th]. He and his mother, Margaret, Countess of Atholl, his kinsmen and friends, petitioned the King for justice. "In trying of the unhonest, tressonable and maist vyle murthour of my lait father." It was a general charge, however, accusing no particular person of the murder (the Earl of Mar, son of the Regent, was also hinted at), and "six earls and sundry lords and barons"[1] were ready to uphold him.

Upon this the Council called the Surgeons together and an inquest was held in the presence of the King's Majesty and the Lords of the Privy Council in Stirling Castle on June 16th, 1579. The proceedings are not uninstructive,[2] and they show the absolute ignorance of the old time physicians in regard to the evidences of poison.

James Owhegarty, "Irelandman borne, leiche that ministratis medicine in the mouth and curis outward be herbis," deponed to death being caused by "rank venom" received by the mouth.

Alexander Prestoun, "Doctour in Medicine," declared that the Earl died of poison. So did George Boswell, "Mediciner and Chirurgiane in Perth." Mr Gilbert Moncrief was doubtful. His evidence was cryptic: he found the humour in the stomach to be venomous, but could not say whether it was exterior or interior grown within the body. David Rattray, "Chirurgiane in Coupare," deponed to death being caused by "ane extraordinare poyson, and that ane spune (silver?) put in the humour changeit the cullour in the cullour of brass." R. Craig, "Burgess of Edinburgh, Chirurgiane," temporised, saying the Earl "to all appearance" died of poison. John Erskine of Dun, a non-medical witness, thought that a red matter which Dr Prestoun showed him was "a cauld poyson." Mr John Duncanson, Chaplain to the King, alleged that the King had got "a wrang causles," as well as (how, does not appear) black lumps on his side and shoulders. Mr Row, Minister of Perth, cannot say "of his conscience"; while the last witness, the Minister of Aberuthven, Mr John Hammill, stated that he saw "strange and unnatural tokens in the stomach, black and red, as it were the dregs of bread and wine mixed," and, what was more important, had heard the dead Earl say "that he had

[1] Hist. MSS. Comm. Rep. Marquis of Salisbury's MSS., p. 256.
[2] Chronicles of the families of Athol and Tullibardine, i. p. 33.

got offence and God forgive them that had done it." Mendoza adds a quaint description of this inquest. "They had opened the body in the presence of five doctors, three of whom said he had been poisoned and two that he had not. One of the latter to assure them that he was right, by proof, took some of the contents of the stomach on his finger and put it into his mouth. The effect was that in a few hours he was thought to be dying. It is not known whether the order to poison him came from Morton or some private person." No wonder after this exhibition of Scottish Medical Science at the time that, as Spottiswoode says, the end was that "the physicians did upon their oaths declare that his death was not caused by any extraordinary mean"; and that (to exculpate her son) on June 16th, 1579, the day of the inquest, Margaret, Countess of Atholl, protested "solempnitlie" that whatever the Council may determine "tuiching the caus of the death" should not be prejudicial to her son, "for that scho did wes bot for hir self and hir awin deutie not having any commissioun of hir son nor nane of his friends."[1]

Yet in spite of all this, as we have seen, the public was not satisfied, and the chroniclers still suspected, and even the Regent Morton thought he was obliged to make a formal declaration in public that neither had a certain "Mr Johne Provand brought home anie poysoun," nor had he ever instigated the murder of the Earl of Atholl. He declared, before he himself died on the scaffold on June 2, 1581, "I would not for the Earldom of Atholl have either ministered poison unto him or caused it to be ministered unto him; yea, if I had been a hundred and he himself alone, I would not have stirred a hair of his head";[2] and with the meagre evidence before us, who would now ever dream of giving any opinion whatever one way or the other?

A. FRANCIS STEUART.

[1] Reg. of the Privy Council, iii. 184-5.

[2] Calderwood, iii. 563.

Clinical Records

CASES OF POISONING FROM ABSORPTION OF PICRIC ACID

By J. STUART ROSE, M.B., D.P.H., Aberdeen

WITH reference to the picric acid treatment of burns, the following notes and remarks on cases may be of interest:—

CASE I. Wm. B., æt. 9, seen on September 15, 1903, suffering from scalding by water of outer side of left chest and flank and small part of left elbow. Scalds were of first degree, with only one or two small blisters. Temperature, 97°. Injured parts were bathed with saturated aqueous solution of boracic acid and "spread picric" applied (*i.e.* picric acid ʒss to vaseline ʒi fiat ungt. sig., to be spread on lint). Urine was normal. Evening temperature 100°, but next day dropped, and varied about the normal line for next three days. Bowels were moved on 16th. Parts were dressed daily.

September 18th.—A slight icteric tint noticed on conjunctivæ; skin of face and palms also slightly yellow. Slight complaint of headache and thirst: the boy appeared dull and drowsy. Bowels again moved. Temperature, 98.6°-99°; pulse, 120; respiration, 20.

September 19th.—Boy vomited in early morning, and during the day declined taking food; drowsiness continued. Evening temperature rose to 101·2°.

During 20th and 21st temperature began to fall again to 99°. Mild diarrhœa (stools being of normal colour) had set in. Yellowing of skin all over, but especially of palms, soles and face, was now very marked. There was no itching. The hair along border of scalp was stained deep yellow. Urine remained normal in quantity and acid, but now showed distinct albumin reactions and deposit of urates. Colour was like very dark port wine, giving one the impression of hæmoglobinuria, but chemical and microscopic examination showed that neither blood, blood pigment, nor bile were present. There was no greenish hue; the red colour appeared suddenly, not gradually. No pain in back or loins or after micturition. The drowsiness still continued, with vomiting; he was put on a mixture containing potass. citrate and soda sulphate. By this time scalded parts were dry and almost healed—no sign of suppuration—but the boy did not look well, so on morning of 21st the dressings were changed to "spread boracic." Nothing abnormal on examination of chest.

22nd.—Morning temperature 103°; more vomiting and diarrhœa; evening temperature again fell to normal.

23rd.—Temperature dropped to normal. Urine much less red in colour and no albumin reaction obtained; no vomiting; yellow discoloration of skin less marked; general condition evidently much improved. Scalded parts under the boracic treatment have become sodden-looking, except round the edges where boracic ointment has not touched. With idea of getting parts again dried up gradually a strip of "spread picric" 2½ in. by 1 in. was put on lower part of loin while rest of wound was dressed as on previous days.

24th.—Morning temperature, 101.4°; had slept well, but vomited in early morning; complained of headache and pain in calves of legs. A bright red, blotchy rash, here and there papular, had developed. It was present on face, arms, specially forearms, chest, slight on abdomen and back, but marked on thighs and legs. Tongue "raspberry" type; tonsils and fauces normal; no running at nose and no enlarged cervical glands felt. Urine was again deeply coloured. Picric dressing removed and whole dressed with boracic fomentations, afterwards a dusting powder was used till recovery.

25th.—Temperature falling gradually; rash faded but still visible on forearms and thighs.

26th.—Rash quite gone; urine less deeply coloured; no diarrhœa.

By 30th urine was again straw-coloured; temperature was keeping normal and the boy looked well though conjunctivæ and skin of palms and soles were still tinged yellow.

The further progress of this case is uninteresting.

CASE II. Geo. C., æt. 45, seen on September 18th, had been much abroad and had suffered from malaria, yellow fever and syphilis. His left shin was scalded over the scars of former ulcers. The part was dressed with "spread picric" as above. In four days skin and conjunctivæ turned yellow, and in six days urine was similar to former case. Temperature kept normal, but he slept badly, had slight diarrhœa and headache. The yellow discoloration of skin was here most marked on palms and finger nails. No rash appeared. Urine remained acid in reaction throughout; no albumin appeared. As in Case I., symptoms rapidly subsided when the picric acid was discontinued.

CASE III. "Spread picric" of above strength was applied to a granulating suppurating wound following severe burn of chest by fire. The woman soon after complained of acute pain in the part and would on no account allow the dressing to

remain on. It was tried again two days after without the woman's knowledge—again came the complaint of unbearable stabbing pains, compelling removal of the dressings.

Remarks.

CASE I. Here there was no dead, charred material to get absorbed and produce intoxication, drowsiness and rise of temperature. These symptoms must have been due to the picric acid. Still, carbolic acid, from which picric acid is derived, is said to lower the temperature.

The date of appearance of the rash was remarkable. It was brought on by the reapplication of the small piece of picric dressing on the 23rd, at a time when the boy was evidently not so steeped with picric as he was two days before. He had previously had measles and scarlet fever.

Note second rise of temperature on 24th.

Urine remained acid in reaction throughout, so that the dark red colour could not have been due to *pyrocatekin*, but to some other (probably oxidised) product.

CASE III. showed that application of picric is not always analgesic, but may even produce pain.

These cases illustrate some of the bad effects of picric acid when used *too long* and probably *too strong*. While house surgeon at Aberdeen Royal Infirmary, I used picric acid for minor burns as routine, but usually in solution [2½ per cent.], from which aseptic gauze was wrung out and applied; occasionally as "spread picric," 1 per cent. in vaseline. Treatment was always very successful, the parts healing rapidly under the crusts without any suppuration. The cases recorded above are the only instances of evil effects I have seen.

REFERENCES.

Brit. Med. Journ., September 12, 1896.
Edin. Med. Soc., July 1897.
Brit. Med. Journ., May 13, 1899.
Lancet, Sept 16, 1903.

A CASE OF CHRONIC PANCREATITIS

By DAVID M. GREIG, C.M., F.R.C.S.Ed.

THE desirability of placing on record for statistical purposes as many cases of pancreatitis as possible, must be my excuse for publishing the following isolated example of the chronic variety, though the case presents nothing new or unusual in its symptoms. They are not common cases, and I cannot be charged with rushing into print with this one, seeing that it is

five years since it occurred. The patient, who was referred to me by Dr Alice Moorhead, was an unmarried female aged 49 years. She had been suffering from jaundice for nearly three months. Her family history was vague, and as far as could be ascertained, unimportant. Her personal history was good. She had had no previous illnesses, except occasional attacks of bronchitis, and had never been subject to bilious attacks. The present illness was ushered in eleven weeks previously, by an attack of shivering, followed by vomiting, and she had become jaundiced. Since then attacks of vomiting had recurred several times. The stools were pale and apparently free from bile, and the urine was as dark as porter. The jaundice had increased, notwithstanding all treatment; and though she was still fat and well-nourished, she stated that she had lost flesh considerably. The tongue was clean, and the bowels were loose on account of medicine she had taken. No enlargement of the gall-bladder could be made out, but there was some tenderness in the epigastrium a little to the right of the middle line. The case was considered to be one of obstructive jaundice, probably due to a stone impacted in the common duct, and three days later the abdomen was opened with that diagnosis in view. The gall-bladder was found to be rather distended; it could be emptied easily on pressure but at once filled up again. This must have been due to the bile escaping from the cystic duct into the right hepatic duct and so into the liver, instead of into the common duct and so into the duodenum, and pointed to the fact that the cause of the jaundice (the obstruction) was present at that time. The liver was normal. In the head of the pancreas I felt a hard, slightly irregular mass, the size of a Tangerine orange, and this I took to be a carcinoma of the head of the pancreas. A cholecystenterostomy was then done, a Murphy's button being used to effect the union. The abdomen was then closed.

On the day following the operation she developed an attack of bronchitis with a troublesome cough, and from the pulmonary complication, five days later, she died.

A partial post-mortem examination was obtained. I removed the gall-bladder, the pancreas, the duodenum, and that part of the jejunum which had been used for the cholecystenterostomy. There was no peritonitis, nor any leakage at the button, but I was surprised to find that the tumour at the head of the pancreas had disappeared. On further examination of the removed parts there was found to be some irregularity of the mucosa on Vater's ampulla, suggesting ulceration, but on subsequent microscopic examination by Professor Muir, no sign of malignant or other disease was found. There were no gall-stones. The canal of Wirsung was dilated throughout its whole

extent to so large a size that it could easily take the little finger laid in any part of its course. The explanation of the condition which was found was apparently, that a gall-stone passing from the cystic or hepatic ducts, had been caught at the exit of the common duct on Vater's ampulla. Here it had absolutely blocked the discharge of bile and at times the pancreatic secretion. The dilatation of the pancreatic duct was very striking, and, indeed, formed the first stage of a retention cyst of the pancreas. The stone lodged in Vater's ampulla may have been discharged into the duodenum during the manipulations of the operation, and Professor Muir considered that the appearances of the mucosa at the exit of the duct warranted such a conclusion. There is, however, another possibility, and that is that the primary lesion was not a gall-stone at all, but a pancreatic stone, which, becoming dislodged, had stuck in the opening of exit and so blocked the common duct as well. The absence of previous pain of the nature of biliary colic, and the sudden onset of the jaundice with at the same time absence of any signs of dilatation or recent injury of the gall ducts, favour this idea. Indeed, the amount the pancreas had departed from the normal on the one hand, and the normal condition of the gall ducts and gall-bladder on the other, tempts one to believe that the pancreas might have been the primary offending organ.

Chronic pancreatitis may precede acute pancreatitis, and I fancy the former may be due to chronic obstruction alone, while the latter is always a septic infection. The dilatation of the duct of Wirsung, the overstretching of the opening on the ampulla by the passage of a stone must leave the gland very liable to infection from the duodenum. In the duodenum, too, the local disturbances and the absence of bile will cause conditions which result in duodenal catarrh, and with this probably bacterial conditions, which do not exist or are kept under control during ordinary physiological circumstances. The injury to the papilla by the passage of gall-stones one might easily conceive to be followed at times by cicatricial contraction and stenosis, leading to more or less obliteration of Wirsung's duct. I do not know of any observations having been made on the existence of the duct of Santorini or accessory pancreatic duct, but I believe they would prove of interest. Thus, if Santorini's duct were well developed, and opening as it does by a separate opening from the canal of Wirsung and the ductus communis choledocus, it would tend, during the obstruction of the ductus communis and canal of Wirsung, to act as a safety valve, and, taking on the functions of the canal of Wirsung, prevent the damming back of the pancreatic secretion. It would be interesting to know whether Santorini's duct was well developed or not in every case of chronic or acute pancreatitis.

AN UNUSUAL CASE OF PSEUDO-HYPERTROPHIC MUSCULAR PARALYSIS[1]

By W E. FOGGIE, M.A., M.B.,

Assistant Physician, Dundee Royal Infirmary; Assistant to the Professor of Medicine, St Andrews University

THE following case is put on record as an example of a comparatively rare disease, with somewhat exceptional complications.

J. F., aged 16, came first under observation in Sept. 1899, and was then distinctly seen to be suffering from pseudo-hypertrophic paralysis.

He is the only member of a family in which neither on the father's nor on the mother's side can any evidence be found of a like condition. The parents are not closely related. The father has had lupus of the neck.

The patient was apparently healthy at birth, and walked quite early. It was only when he was about five or six years of age that some stiffness was noticed in the right leg, but no special attention was paid to it. He had scarlet fever in his ninth year, and this seems to have hastened the muscular changes. Since then he has been noticed to be slow at going upstairs, and to require to help himself by putting his hands on his thighs, so as to be able to push himself up.

When he first came under observation the gait was already markedly affected. His feet were kept well apart, while there was a tendency to throw back the shoulders and the upper part of the body, and to arch forward the small of the back. The gait was waddling in character, and when he tried to run the head fell forwards into the shoulders, "like a tortoise." He could rise from the ground, but only by spreading out his legs and climbing up the thighs in the usual characteristic fashion. He walked to school, a distance of two miles, but frequently fell if his foot chanced to catch upon anything.

He had then a healthy, bright appearance. His body was fairly well-developed, and his height was in keeping with his age.

Muscular development of the body was obviously affected. The calves were hypertrophied and firm, but beyond a slight firmness of the infra-spinati, the other muscles affected were atrophied.

The thigh muscles were wasted and soft. The pectorals were wasted in the lower halves. The latissimi dorsi were absent.

[1] Read before the Forfarshire Medical Association, November 1903.

The biceps and triceps on each arm were wasted in contrast to the firm and apparently unaffected muscles of the forearms and hands.

Muscular power was very weak in large groups of muscles, more especially the flexors and extensors of the hips and of the knees. In the upper limbs the grip was fair, but the action of the muscles of the upper arms and shoulders could be very easily resisted. He sat down very abruptly, and when seated tended to become very round-shouldered. The lower rib margin was somewhat prominent.

The knee-jerks were absent. There was no ankle clonus. The plantar reflex was present. The great toe reflex was flexor in type.

There was no enlargement of the tongue. The face was not involved.

There were no sensory changes beyond an occasional pain about the knee. He seemed tired at times. Intelligence was well up to the average.

Electrical examination showed a weak reaction to faradism the normal reaction to galvanism, with occasionally in the calf muscles KCC = ACC.

Co-ordination in the arms was quite good.

Mottling was marked on the thighs and the arms.

There were no fibrillary contractions.

There was a small bony projection at the internal tuberosity of the left tibia. The left fifth toe was crossed over the dorsum of the fourth.

His health otherwise was good, beyond a slight mitral regurgitation, probably dating from his attack of scarlet fever.

Treatment consisted in general tonic medicine, and the daily use of gymnastics, rubbing and cold-sponging. Under these therapeutic measures the boy seemed for a time to hold his own and even to gain a little.

He was seen at various times during these two years, but there was no noteworthy change till July 1901, when he was noticed to be drawing up his right heel. Walking was becoming more difficult throughout the year 1902, and by August he had finally gone off his feet. Since then there has been a distinct wasting of the calf muscles, although they still look large to-day. By October 1902 scoliosis was distinct in the lower dorsal and lumbar regions. By December 1902 he could raise himself so far as to be able to support himself on his thighs, and when in this position he could walk across a room.

By August 1903 there was some tendency for the hamstrings to stiffen and flex the knee. He was now practically unable to rise.

The tongue, which had at first been of ordinary size, was

noticed in August 1901 to be distinctly enlarged, as if it had been growing for some little time. From that date till now it has been steadily increasing in size. It is firm and swollen, and even at times hangs from the mouth. It is very broad at the point. It can be moved fairly freely. (See photograph.)

About October 1902, and still more by December of that year, the open mouth, the loss of expression in the face, and the thickened look about the lower lip began to attract attention. These have increased a little of late, but not as yet to any marked extent. The lower lip is not impeded in its movement in any way. He can whistle, smile, etc., in a natural manner.

The above case may be taken as a typical example of pseudo-hypertrophic paralysis with certainly the minimum of hypertrophy, but otherwise as regards age, mode of onset and general course, exhibiting all the leading features of the disease.

Of more interest, however, is the enlarged tongue. Enlargement of the tongue is a rare condition in a not very common disease. Gowers (6) says that in a few patients the tongue is enlarged, and speaking of cases 19-22 (one family) in his book (1) he notes: "The tongue in each was large, but its increase in size was noted later than that of the other muscles." This corresponds with the time of onset in the above case. Taylor (4) also reports a case with enlarged tongue. Bramwell (5) says it only occurs in exceptional cases.

Such an exceptional case this seems to be, with the slowly developing hypertrophy of the lower lip which would mark out this as one of those transition forms that help to link the various types of muscular dystrophy into one clinical entity.

It is the peculiar honour of Erb (2 and 3) to have correlated in a broad philosophic fashion all the varied series of cases of muscular dystrophy of apparently purely muscular origin that are ranged under various names, and to have shown that under the seeming differences they present certain broad and fundamental points of agreement which determine their inclusion under one common name, that of progressive muscular dystrophy.

One special part of Erb's argument for the common origin

of these different types is the existence of transition forms, and such is the case here with a definite pseudo-hypertrophic paralysis beginning to show signs of the type with facial involvement. When the face is fully affected the condition of hypertrophy or atrophy of the facial muscles along with their weakened state results in a dulness of expression and a lack of facial movement in the execution of certain acts such as whistling, smiling, and the like.

In connection with the as yet very slight affection of the face the following statement of Bramwell (5) seems singularly *à propos*: "When the facial muscles are only affected in a slight degree the atrophy may easily escape observation. . . . Post-mortem observation has shown that, in some cases in which the face appears to be perfectly normal during life, the facial muscles are involved." The above case seems worthy of record at this stage in its history, but of course it will be of much more value at a later date, when the slow but sure degenerative process in the muscle has still further developed.

REFERENCES.

1. Gowers, "Clinical Lecture on Pseudo-Hypertrophic Paralysis," 1879.
2. Erb, *Deutsch. Zeitschrift f. Nervenheilkunde*, vol. i., 1891.
3. Erb, "Progressive Muscular Dystrophy" Clinical Lectures, N.S.S., 3rd series, 1894.
4. Taylor, *Trans. Clin. Soc. Lond.*, vol. xxvii. p. 266, 1894.
5. Bramwell, "Atlas of Clinical Medicine," vol. iii., 1896.
6. Gowers, "Diseases of the Nervous System," 3rd ed. vol. i. p. 572, 1899.

Meetings of Societies

Edinburgh Medico-Chirurgical Society

THE first meeting of the eighty-third session was held on the 4th November—Sir Thomas R. Fraser, President, in the chair.

Dr Norman Walker showed a patient with multiple rodent ulcers of the face.

Mr Stiles showed a patient after successful transplantation of tendons for paralytic equino varus.

Dr Edwin Bramwell showed a case of hemiplegia of twelve months' standing in a man aged 61, who had had syphilis twenty-four years previously. The Argyll-Robertson pupil was present on both sides. The right Achilles-jerk was absent, though the knee-jerk on that side was markedly exaggerated. The patient had had shooting pains in his legs for several years. Dr Bramwell was of opinion that these facts justified a diagnosis of associated preataxic tabes. There was a bilateral extensor response, most pronounced, however, on the right side. Stimulation of the sole of the left foot was followed by a flexor move-

ment of the right great toe. The sign of "flexion of the thigh on the trunk," first described by Babinski, was present on the right side; the Tibialis Phenomenon of Strümpell was also well marked on this side.

Mr Scot Skirving showed two patients: (*a*) after infective; (*b*) after non-infective wound of the knee-joint. The latter case was treated by thorough cleansing drainage, extension, and early passive movements, the result being a good movable joint.

Mr David Wallace showed: (1) a boy, aged 19 years, with congenital hypertrophy of the left half of the tongue: (2) patient in whom dislocation of the acromial end of the clavicle had been treated by wiring.

Dr Allan Jamieson showed: (1) case of parakeratosis variegata; (2) case of mycosis fungoides in the erythrodermic stage; (3) case illustrating successful treatment of severe ichthyosis; (4) a case of ichthyosis showing an unusual distribution, the palms of the hands, bend of each elbow, axillæ, areolæ of nipples and soles of the feet being chiefly affected.

Mr Cotterill showed a patient with a fungating, bleeding, fixed, inoperable sarcoma of the shoulder under treatment with X-rays.

The following card specimens were shown:—By Dr George A. Gibson: microscopical sections of supra-renal bodies from a case of Addison's Disease showing absence of tubercle. By Dr Hill Buchan: two microscopical preparations from a case of asthma. By Mr Scot Skirving: (1) stereoscopic photographs of a series of extra-genital chancres; (2) specimen of photograph of a peculiar foreign body (extremity of locust bean) impacted in left bronchus. By Mr Cotterill: (1) large multiform ovarian cyst; (2) kidney removed from a child aged five for hydronephrosis due to congenital occlusion of ureter; (3) tumour removed from gluteal region of a child aged nine months (with slide); (4) specimens to illustrate longitudinal splitting of the internal semilunar cartilage in so-called "dislocation" of that structure. By Mr Caird: specimens of stricture of the bowels.

Mr Caird read a paper on "Enterectomy for tuberculous stricture of the intestine," which will appear next month.

The President delivered his valedictory address. Having drawn attention to the highly satisfactory state of the Society's membership, he proceeded to refer to those members whose loss during the past two years the Society lamented. In closing, he reviewed the Society's work during the two sessions he had occupied the chair, and showed how the Society had advanced in prosperity.

On the motion of Dr Underhill, a hearty vote of thanks was accorded to the President.

The following were elected office-bearers for the session:—President, Professor John Chiene, C.B.; Vice-Presidents, Dr

James Ritchie, Dr J. O. Affleck and Sir John Halliday Croom; Councillors, Dr E. Carmichael, Dr T. B. Darling, Dr Wm. Stewart, Dr W. G. Sym, Sir Thomas Fraser, Dr Underhill, Dr Dawson Turner and Dr Norman Walker; Treasurer, Dr Harvey Littlejohn; Secretaries, Mr Alexis Thomson and Dr Lovell Gulland.

Edinburgh Obstetrical Society

THE opening meeting of the sixty-fifth session was held on the 11th November. The retiring President, Dr James Ritchie, delivered his valedictory address, which will be found on p. 494. A vote of thanks was moved for his address and for the way in which he had occupied the presidential chair, by Professor A. R. Simpson, and seconded by Sir J. Halliday Croom.

Dr E. Scott Carmichael then read his communication on "Leucocytosis in Pelvic Disease." This paper will be published. Professor Simpson, Drs G. Lovell Gulland, Berry Hart, and J. W. Ballantyne took part in the discussion which followed.

The following office-bearers were elected for the ensuing session:—

President, Dr N. T. Brewis. *Vice-Presidents—Senior*, Professor Simpson; *Junior*, Professor Kynoch (Dundee). *Treasurer*, Dr Wm. Craig. *Secretaries*, Dr William Fordyce; Dr Lamond Lackie. *Librarian*, Dr Haultain. *Editor of Transactions*, Dr Lamond Lackie *Members of Council*, Sir Halliday Croom; Dr Michael Dewar; Dr Matheson Cullen; Dr Moorhouse (Stirling); Dr James Ritchie; Dr J. W. Ballantyne; Professor Jardine (Glasgow); Dr Aitchison Robertson.

Royal Medical Society of Edinburgh

THE first ordinary meeting of the Society was held on October 23rd, Dr B. P. Watson in the chair.

1. Dr R. A. Fleming read a paper on retinal hæmorrhage. It was illustrated by lantern slides, and Dr Fleming received the very cordial thanks of the Society for the demonstration.

2. Notes on a case of tetanus by Dr Fitzwilliams were read in his absence by Dr Shaw. The case, which proved fatal, was a very typical one; and bacilli were found in the wound.

3. Dr T. W. E. Ross read notes on a case of Kopf-tetanus. Nineteen days after an injury of the face, paralysis of the left side of the face and of the right side of the body appeared. The patient died shortly after admission to hospital.

Oct. 30th, 1903.—The following gentlemen were elected Presidents—Drs Shaw, Fitzwilliams, Hamilton and Shepherd. Dr Shaw, senior President, then took the chair.

1. Dr Low read notes on a case of Addison's Disease in a man aged 30. The disease, which was peculiar in the absence of pigmentation, at first simulated myxœdema, and thyroid treatment was used. Post-mortem, the right supra-renal was found to be almost completely absent, and the left was markedly atrophied.

2. Dr Dunbar read notes on a case of chronic splenomedullary leucocythæmia occurring in a woman aged 42. Dr Dunbar showed microscopic slides illustrating the condition of the blood before and after treatment.

3. Dr C. M. Campbell read notes of a case of hysterical ischuria in a female aged 17. There were numerous stigmata of hysteria.

Nov. 6th, 1903.—Dr Fitzwilliams in the chair.

1. Dr Shaw gave from the chair his presidential address, his subject being, "The Relation of the Medical Man to the Community, with special reference to the Improvement of National Physique."

2. Dr H. N. Fletcher showed a case of pseudo-hypertrophic paralysis occurring in a man aged 23. The muscles of the calf and upper arm were especially enlarged; while the gluteal muscles, the trapezius and the latissimus dorsi were atrophied. The patient showed the characteristic attitude and gait, and also "climbed up his knees" in rising from the floor. He had improved under treatment.

3. Dr Fletcher also showed a case of senile chorea in a male patient aged 36. The symptoms had been present for six years. Some of the features of the case suggested the diagnosis of an unusual form of general paralysis.

4. Dr Morton read notes of a case of uræmic convulsions. The treatment was complicated by the presence of alcoholic cirrhosis of the liver, acute apical pneumonia and ichthyosis.

Nov. 13th, 1903.—Dr Hamilton in the chair.

1. Dr Fitzwilliams gave his presidential address, his subject being "The Black Death." He traced its origin to a succession of famines, earthquakes and floods, overthrowing in China what had originally been a very adequate system of sanitation. The disease reached this country in the fourteenth century, and remained endemic for 300 years, disappearing after its culmination in the Great Plague.

2. Dr Croom read a dissertation on Hyperpyrexia. The highest temperatures, he stated, were reached in hysterical cases; but only in such cases was the prognosis favourable. The prognosis is worst in cases of cerebral lesions.

3. Mr Keith Murray read a paper on "The Relation of the Cerebellum to the Sexual Function."

The following are the Office-bearers of the Society for the year:—

Secretaries, Dr Morton; Mr Wilkie. *Conveners of Committees—Finance*, Dr B. P. Watson; *Library*, Dr Dunbar; *Museum*, Dr Aitken; *Public Business*, Dr T. W. E. Ross. *Editor of "Transactions,"* Mr MacRae.

Glasgow Medico-Chirurgical Society

THE third ordinary meeting of the present session was held on November 6—the President, Dr David Newman, in the chair. There was a large attendance.

Sir Hector Cameron showed a boy, aged 11, who had been recently treated by him on account of a large idiopathic popliteal aneurism; a condition which, though common enough in adolescents and adults, is rare in young children. The lad on admission showed the presence of a large tumour, nearly solid, though exhibiting expansile pulsation to some extent. The leg was bent at a right angle, and the symptoms chiefly complained of were those of severe pain felt over the dorsum of the foot and down the shin; there was also some paralysis of the peronei. It was situated in the upper part of the space, and bulged laterally beyond the femoral condyles. As regards diagnosis, the question of a pulsating sarcoma was naturally considered. Reference was made to Syme's case of the same lesion in a boy of 7; it was, however, lower in the space, as is usually the case, and more in the calf. Syme tied the artery with excellent result.

In this instance, Sir Hector tied the femoral in the usual position, but with some misgivings. He followed Lister's old plan of using three fine strands of catgut, instead of one single thick one, as the latter takes so long to absorb. The pain ceased from the moment of tying, the leg began gradually to be extended, and the boy has now perfect freedom of movement.

Sir Hector also showed an unusually large renal calculus removed from a male patient by operation. The stone was distinctly larger than a pigeon's egg and was irregular in shape. It was the largest stone he had ever removed from the kidney. The President, remarking on the case, said that he had removed as large a bulk as the specimen at a time, but in the form of débris. Sir Hector said he had done the same, but this was the largest single stone he had taken from the kidney.

Mr J. Hogarth Pringle showed a patient whose tibial spine had been sutured after avulsion, the result of the accident being

that the subject had been rendered lame; he also showed some patients exhibiting the results of amputation by Bier's method. The stumps were extremely good, and it was found that the patient could stand quite well on the end of the limb.

Glasgow Obstetrical and Gynæcological Society

THE first meeting of the present session was held on October 28—the President, Dr Nigel Stark, occupying the chair. There was a very large attendance. The President having briefly thanked the Society for the honour they had done him in re-electing him again to the office, gave a short resumé of the work of the previous session, and expressed the hope that the present one might reach the same standard of excellence. The evening was devoted chiefly to an exhibition of specimens (macroscopic and microscopic), with short notes on the cases from which they had come, while Messrs Downs Bros. gave a demonstration of some new gynæcological and obstetrical instruments.

1. Mr R. H. Parry showed: (*a*) a large myoma of the ovary removed along with a uterus which was also fibroid; (*b*) specimens from a case in which there was cystic disease of the left ovary, and tubercular disease of the right tube and tubercular peritonitis; the ovary and tube were removed, as well as the appendix, cæcum, adjacent part of the ileum, and a separate part of the ileum higher up. The patient did well.

2. Dr Edgar showed: (*a*) a myxoma of ovary, in a woman of 29; (*b*) the bowel and tumour from a case of malignant disease of the sigmoid flexure which had become attached to the posterior wall of the uterus, and had led to an almost complete stricture; (*c*) a case of fibroid of the uterus, removed by supra-vaginal amputation, in which an adeno-carcinoma of the cervix was discovered later on and removed.

Dr Teacher showed (for Dr Christy) a papilloma of the nipple in a woman of 34. The growth, which was about the size of a marble, projected from the end of the nipple, and was composed of dense fibrous tissue covered by skin. It had been there 16 years.

Dr J. K. Kelly showed the sac and fœtus from a case of extra-uterine gestation operated on before rupture. He also exhibited various microscopic sections of tumours of interest.

Dr A. W. Russell showed: (*a*) a very large semi-solid ovarian cystoma, removed from an epileptic; the other ovary was also taken away; (*b*) a very large tumour of the uterus removed from a woman of 45; it was doubtful whether it was a fibroid or a sarcoma on naked eye examination; (*c*) a uterus with fibroid tumour of the anterior wall, leading to incarceration in the pelvis and to retention of urine.

Dr John Teacher then gave a very excellent lantern demonstration on chorion-epithelioma, using this term in preference to the older name of deciduoma malignum. He described the leading characteristics of the growth—its association with delivery and abortion, its position in the usual placental site, its tendency to infiltrate the tissues, invade the blood-vessels, and cause bleeding, and its proclivity to form metastatic growths, particularly in the vaginal veins and the lungs. The histology was often very complex, owing to cell degeneration. A good demonstration of the normal villus with its coverings of syncytium and Langhan's layer was then given, followed by slides showing the changes that occur in hydatidiform degeneration of the chorion, and finally, in chorion-epithelioma. Dr Teacher concluded by showing sections of the very similar growths described as occurring in the testicle which he was inclined to regard as essentially the same, and arising possibly from the inclusion in one twin of structures belonging to the other (non-developed).

Glasgow Pathological and Clinical Society

THE second meeting of the Society for this session was held on November 9th—the President, Mr Maylard, occupying the chair. There was a good attendance.

1. Dr Donald Fraser (Paisley) discussed the case of a man in which certain remarkable cerebral symptoms occurred as an eventuality after an operation for appendicitis. Even before the operation there were indications of brain disturbance, and at length these attained a high degree. Finally the man had to be placed in an asylum. It was surmised that the pathology consisted in a septic absorption from the appendix as a focus, with secondary thrombosis of the cerebral vessels, and eventually hæmorrhage affecting chiefly the frontal lobes.

2. Dr James Hamilton (introduced by Mr Maylard) read notes of a case of hydro-nephrosis in a young man, and showed the specimen of the kidney removed after a fatal ending. The cause had been malignant disease of the gall-duct near its junction with the duodenum, leading secondarily to pressure upon the ureter near the renal pelvis.

3. Dr Inglis Pollock (introduced by Dr Freeland Fergus) discussed a case of tubercular iritis seen by him in Berlin, and showed specimens from the eyeball after enucleation. There had been at first some hesitation in the diagnosis, as the patient (now a girl of 10) had suffered some years before from double keratitis and labyrinthine disease. But anti-specific remedies had no effect on the condition of the iris, and the lesion was in its substance not towards the periphery. The diagnosis was

eventually made certain by the discovery of a tubercular nodule in the choroid, and the eyeball was removed by Professor Greef at the Charité.

4. Dr Munro Kerr showed a dermoid tumour which he had removed by vaginal cœliotomy. In position it lay behind the peritoneum of the pelvis, but anterior to the rectum, though not attached to it. It was somewhat thin in its walls. The uterus and appendages appeared to be free from disease.

The following card-specimens were on view:—

(*a*) By Dr Ernest Fortune—Corpus luteum of unusual size (naked eye and microscopic preparation).

(*b*) By Dr John Teacher—Similar preparations for comparison with above.

(*c*) By Dr John Anderson—Microscopic sections of tumour of brain of columnar cell type; of epitheliomatous nodules in the pancreas, secondary to a squamous epithelioma; of tubercle nodules from the skin of the leg.

(*d*) Dr W. D. Macgregor showed skiagrams of feet exhibiting well-marked arterio-sclerosis of the anterior and posterior tibial arteries as well as bony changes.

(*e*) Dr John Barlow showed a specimen of enteric intussusception successfully removed by operation.

Forfarshire Medical Association

THIS Society met in the University College, Dundee, on Thursday, November 5th, 1903—Dr W. Graham Campbell, Vice-President, in the chair.

Mr Greig showed a patient five months after excision of the entire rectum and part of the sigmoid by trans-sacral route for epithelioma. The patient was a man of 37 years, and had had symptoms for about a year before operation. The result was very satisfactory, and it was pointed out how much better and more comfortable this patient was with an artificial anus in the upper angle of the sacral wound than he could have been with the artificial opening in the iliac or lumbar regions. The parts excised were shown.

Dr Kerr showed a child of 18 months with right-sided facial paralysis brought on by exposure to cold.

Dr Foggie showed three patients (two in one family) suffering from pseudo-hypertrophic paralysis. All three, as well as another of whom he read notes (see p. 532), showed in varying degree and at various stages the characteristic points of the disease. In one patient there was a marked enlargement of the tongue, and in addition there was some hypertrophy of the lower lips that was sug-

gestive of commencing facial involevment. It thus formed one of these transition cases that were used by Erb in his argument for the inclusion of all forms of idiopathic degeneration under one common clinical name—progressive muscular dystrophy. As regards treatment, any good that had been obtained had resulted from systematic muscular exercises.

Mr Greig showed a stereoscopic photograph of an adult with paralysis of the serratus magnus, and one of a child with paralysis of the deltoid and teres minor. Both these had probably been caused by poliomyelitis anterior acuta.

Dr Mackie Whyte demonstrated Kronig's method of percussing the apices of the lungs on a patient on whom he also showed Litten's sign. Several diagrams were shown of this method of percussion in diseased chests.

Dr MacVicar showed a patient (a female), aged 61, 9 months after excision of the right knee-joint, with firm union. He described the disease as having been very advanced, affecting ligaments, cartilage and bone. Firm union was not obtained until four months' rest in bed after the operation, and now the patient was free from pain and able to walk with ease. Comment was made on the firm union resulting in a patient of such advanced age, and with this result he compared the results in old persons who had come under his care for fracture of the neck of the femur. In one case he obtained bony union only after seven months' treatment.

He showed two specimens obtained post-mortem from similar cases which showed no attempt at bony union, in one after being seven years in bed. He also showed a specimen of similar fracture which occurred in a man aged 32, who died a month later. Post-mortem, recent hæmorrhages were found in the neighbourhood of the joint, but no callous formation was present. He thought these cases illustrated the utter futility of treatment by splints of intracapsular fractures of the neck of the femur in old people, probably due to the difficulty in steadying the upper fragment. These patients should simply be made comfortable for a month or so, and if able for operation the head of the femur might then be excised.

Mr Greig considered the splint in intracapsular fractures was only applied in such cases to prevent the undoing of impaction if any were present. The pain which followed such cases was due to traumatic osteo-arthritis. Excision of the head of the femur was, he said, accompanied by such an amount of shock as usually to contra-indicate interference in old people.

Mr Greig read notes of a case of chronic pancreatitis (see p. 529).

Editorial Notes and News

Sir John Gorst on the Health of School Children.

SINCE the publication of the Report of the Commission on Physical Training (Scotland), Edinburgh has attained an unenviable notoriety as the awful example of the effect of town life on the growing population. In a recent address on technical education, Sir John Gorst called special attention to the Commission's investigation of the health of school children in Edinburgh. "A test examination," he said, "was made of the children in the schools of Edinburgh by a competent medical authority. There were four groups of schools, one in the very best part of the city. The result was perfectly appalling. It was one of the most shocking returns he ever read in his life; for out of these children, some belonging to quite the better class, there were 70 odd per cent. actually diseased, and 35 per cent. were seriously diseased. There was a large percentage of children with defects of sight and hearing, and 30 per cent. were suffering from insufficient nutrition—that is, were half starved. In the Canongate schools this starvation amounted to 38 per cent. The children most diseased were those living in the most insanitary surroundings. It might be considered as quite established that if you put a child to live where the sanitary conditions were ineffective, not only will the child grow up diseased, but perfectly incapable of profiting by the instruction which the ratepayers were expected to provide and which cost so much. The moral he wished to draw was that perhaps the first thing that ought to be done by the new authorities was to examine the children for whom they had now become responsible. It was not a very costly business to take a test examination, to put the children through a medical examination, and see what the stuff was, to see what the material was that they were to subject to this process of education, and the "first thing" the authority ought to do was to see that the children were brought up in healthy surroundings." This "first thing" has now been done in Edinburgh and Aberdeen, and the results, as Sir John Gorst says, are certainly disquieting. At the same time it is necessary to remember that the word "diseased" is used by the medical examiners in a technical sense to include minor ailments such as pharyngitis or slight enlargement of the tonsils, which may have little or no effect on the general health of the child. Certainly an uninstructed observer, watching the "skailing" of a public school in Edinburgh, would be scarcely likely to guess that 70 per cent., or anything like 70 per cent., of the children before him were "diseased." After making all allowances, however, we fear there is no escape from the Commission's

figures, however little we may like to see our fair city pilloried before the eyes of the world as one in which the health of the children is so little cared for that a Royal Commission can, in cold blood, report that over 70 per cent. of them are diseased. The real question is, what can be done to remedy a state of matters which is assuredly capable of amelioration. The recommendations of the Commission have already been quoted in these columns; and with such figures as have been reported before them, the authorities should have little difficulty in carrying these recommendations and other suitable measures into effect. No doubt some of the Commission's recommendations, such as the appointment of School Medical Officers, would involve some expense, but the expense would be trifling compared to the benefits resulting. In many English towns School Board Medical Officers have been appointed in recent years; and in a number of cases where a Board began tentatively by appointing a medical man to give part of his time to the work of the Board, it has soon been found necessary to reappoint him at an increased salary to give his whole time to the work involved.

The necessity of a medical inspection of schools and school children is coming to be recognised all over the civilised world. The subject was under discussion at the recent Brussels Congress, and the Congress expressed the opinion that such inspections should comprise:—

1. The surveillance of the salubrity of the school buildings.
2. The prophylaxis of transmissible disease.
3. The periodic and frequent investigation of the normal functions of the body, and of the growth of the physical organism and the development of the intellectual faculties.
4. The rational culture of the physical organism of the child.
5. The adaptation, in conjunction with the teacher, of intellectual culture to the individual physical capacity, and the sanitary instruction of the child.

In immediate application of this general view, the Congress, considering that medicine has shown the necessity of a special school regime for abnormal children, is of opinion that such children should receive special and separate instruction.[1]

Bacteriology of Syphilis.

DR JUSTIN DE LISLE, in *American Medicine*, Sept. 19, 1903, considers this subject in the light of his own researches, and claims to have at last isolated the organism which is the essential cause of syphilis.

The clinician has already demonstrated that infectivity

[1] See also, *Brit. Med. Journ.*, Nov. 14. 1903, p. 1284-5.

resides in the blood and in no other fluid of the body, and at first sight it would appear easy by inoculating syphilitic blood or suitable medium to isolate the organism.

This has hitherto failed, and the reason seems to be that if the blood is allowed to clot, as it does when such simple technique is used, an alexin is set free, which destroys the specific organism, which is very fragile and sensitive.

To avoid this bacteriolytic action, Dr De Lisle, in collaboration with Professor Louis Jullien, of Paris, elaborated a special method of separation and cultivation. He withdraws a large quantity of blood from a vein, mixes it rapidly with a solution of neutral potassium oxalate, separates the cells, and cultivates the separated serum in collodion sacs in the peritoneal cavity of a guinea-pig. After six to ten days, the contents, if planted upon ordinary culture media, give a growth of a pleomorphic bacillus, which develops readily, and which he considers the bacillus of syphilis.

Injected into the peritoneum of a guinea-pig, cultures cause paraplegia, marasmus, abortion, and death in from ten to fifteen days. Injected subcutaneously, they cause the formation of a hard ulcer, with enlargement of the neighbouring lymphatic glands. Agglutination takes place when placed in contact with the blood of a syphilitic, whilst this reaction does not take place with healthy blood. Inoculations into syphilitics have been uniformly negative. A specific bacteriolytic serum is invariably produced by injection into animals.

As in the case of syphilis in man, this organism dies with the infected animal.

He looks upon these tests as conclusive, and is now attempting to produce a bactericidal serum by injecting animals with cultures of his bacillus.

His arguments are in accordance with the trend of recent bacteriological investigations, and we shall await with interest the confirmation of his investigations by other workers.

The Case of Miss Hickman, M.D.

AFTER a lengthy inquiry, a competent jury have found that on October 18th, 1903, Sophia Frances Hickman was found dead in the Sidmonth Plantation, and that she died from poison from morphine sulphate, self-administered, at a time when she was temporarily insane. From the evidence led, it was impossible a jury could have brought in any other verdict. Dr Thomas Stevenson had indeed found in what remained of the stomach, intestines and left kidney as much as one-sixteenth of a grain of morphia, and so, apart altogether from the finding of a hypodermic syringe containing traces of morphia and a tube

containing twenty quarter-grain tabloids of morphine sulphate, the plain inference was that of suicide.

As regards motive, much idle gossip had gone abroad, and the coroner was at pains to discover whether there had been any friction or unpleasantness between Miss Hickman and her colleagues at the Royal Free Hospital. It would appear, however, from the evidence that, on the contrary, she was very happy in her work there.

If a definite reason be, however, absolutely necessary, perhaps we may find it in the nervous condition in which she was two days previous to the taking up of her new duty as interim Resident House Surgeon at the Royal Free Hospital. Her medical colleagues and the nurses at the Hospital in their evidence stated that Miss Hickman betrayed no anxiety as to her work. A strong-minded lady, however, like Miss Hickman, would be the last to betray any sign of nervousness to her colleagues. It is a matter of common knowledge that an apparently unconcerned demeanour may hide a high degree of nervous tension. Miss Hickman to her friend of twenty years' standing, however, expressed two days before her death her pleasure in getting the appointment; but, at the same time, she spoke with dread of taking up this new post, and doubted her own wisdom in accepting it. She also remarked that she was not so good at surgical as at medical work.

Then if any weight is to be attached to her family history, we find that a sister of Miss Hickman's is at present under restraint in the care of a medical practitioner, and a cousin of her father's committed suicide. Though in themselves such facts are of slight importance, they may be sufficient to afford a motive for the act, insufficient as they may appear to many.

A brief resumé of an admirable report by Dr M. Gardiner, who performed the autopsy, will be read with interest. The plantation is in Richmond Park, not very far from the Richmond Gate entrance, and easily seen from it, being only about 350 yards distant. The plantation and spot are in no way secret, people walking about the park at all hours, though the gates of the park are shut from dusk until about 7 A.M. The plantation is surrounded by a fence 5½ feet high, enclosing a thick screen of rhododendrons.

As against the case being one of murder away from the locality and transference of the body to the plantation, the publicity of the place, the power necessary to get the body over the fence, the difficulty of conveying a body unseen, the time necessary to hide it, all militate against this theory. Finally, were all these overcome, the natural attitude of the corpse, with the legs semiflexed on the trunk, and the arms in an attitude of rest, argued an amount of intelligence not likely to be possessed

by a murderer. In the case of murder, it is likely that the body would have been lying at right angles to the fence and with the clothes disarranged. Nor was she likely to have been murdered in the plantation, because the attitude was not that of a murdered person, but much more like that of a person sleeping.

Was it a case of death from natural causes? Not likely, because the body was too well nourished for the deceased to have died from starvation; nor was it probable that death was due to exposure when the time of year is considered (latter half of August). She was not likely to have succumbed to ordinary disease, as the spot where the body was found was wet and muddy, and it is hardly likely that a person feeling ill would have scrambled in below thickly growing shrubs. The position demonstrated a selection not for natural sleep, but probably for an artificial sleep induced by opium in some form or other.

Newspaper reports have made us familiar with the post-mortem appearances of the body, and the gnawed condition of the skin is frequently referred to in Dr Gardiner's deposition. The gamekeeper in his evidence, however, stated that there were no rats in Richmond Park.

The whole case is one of extreme interest from a medico-legal point of view, and we may hope that, as has happened in other famous cases, further light may yet be thrown upon this one.

The Index Medicus. IN the early part of this year the *British Medical Journal* announced that the *Index Medicus*, after being discontinued for four years, had been revived, through the liberality of the Carnegie Institution, Washington. The Institution promised an annual subvention of £2000 for three years, on the understanding that its continuance would depend upon the amount of active support received from the medical profession, in whose interests the *Index* was revived. According to the *British Medical Journal*, the number of subscribers has not so far been sufficient to encourage the hope of a prolongation of the existence of the *Index* beyond the period for which the grant is promised.

As the generosity of the Carnegie Institution has brought the price of the *Index* to the level of the subscription to a medical magazine, it will be a real misfortune if the number of subscribers does not rapidly increase sufficiently to justify the continuance of publication. The *Index*, being a carefully classified list of publications, is of invaluable service to all who are engaged in medical research, or who desire to keep abreast of recent work in any department of medicine. It would be interesting to know how many copies of the *Index* are subscribed

for in Scotland. The *Index* is one of the most important tools of the medical worker, and if instruction in the use of such an instrument could find a place in the medical curriculum it would benefit both the individual student and the medical school. In spite of the recent increase in practical classes, the average medical student is still a far too purely receptive animal. He absorbs knowledge from his professors' lectures, from tutorial classes, from coach classes, but shies like a frightened horse at any suggestion of active acquisition. Much more should be done to encourage the student to think for himself, and to cultivate his powers of observation and inference. We are persuaded that one step towards such an end would be to encourage the senior students to go beyond their text-books, and to expect them to have some knowledge of current literature concerning some limited subject, for example, their own particular cases, whether medical or surgical, or some subject chosen by themselves. To further such an end, our suggestion is that a copy of the *Index Medicus* should be at the disposal of the students in all hospitals where medical training is given, and in the case of large hospitals, like the Royal Infirmary, a copy might be provided in each department of the hospital.

Faculty of Physicians and Surgeons of Glasgow.

THE annual meeting of the Faculty for the election of office-bearers and other similar business was held on November 2. The retiring President (Dr Jas. Finlayson), in demitting office, gave a short account of the principal events that had transpired (bearing more or less directly upon the Faculty) since he had been elected to the position of President three years before. He thanked the Fellows for the loyal support they had at all times afforded him, and, leaving the chair, welcomed the new President, Mr Henry Clark, who had been elected unanimously. Mr Clark thanked the Fellows for the honour they had done him, and asked them to give his predecessor in the chair a sincere vote of thanks. The election of other office-bearers was then proceeded with, in most instances without a contest. In four instances a vote was taken, and Dr W. L. Reid was elected Visitor; Dr Jardine, Examiner in Midwifery for the licence; Dr Barlow, in Surgery for the licence; and Dr Wallace Anderson, in Medicine for the Fellowship.

Practical Obstetrics.

DR RITCHIE might easily have said more, when referring in his address to the necessity for improvement in the teaching of practical obstetrics in Edinburgh. There is no department in teaching, in which the Prince of Wales' advice to "wake up" is more needed, and none in which it could be so easily obeyed. Statistics, which

the most dexterous politician would find it difficult to explain away, show clearly that the students recognise the need of more practical training, for year by year more and more of them emigrate to the Rotunda and the Coombe for their practical midwifery. And yet in the Simpson Memorial Hospital there is a staff second to none in ability, all experienced teachers, and only yearning for the opportunity to restore to Edinburgh its obstetric glory.

It would be a very easy matter, one would suppose, to convert one of the adjacent houses into a hostel, where say a dozen students could reside for six weeks at a time during which they could acquire a real *practical* knowledge of the subject. Training midwives is all very well, but we venture to hold that training doctors in midwifery is a good deal more important.

We trust that the Directors of the Hospital will give the fullest consideration to the scheme which we understand has recently been placed before them.

Professor Lorenz. THE story has been going the round of the lay press that the results of the operation on the little Armour girl, which Lorenz crossed the Atlantic to perform, had been a failure. The *New York Medical Journal* publishes an authoritative contradiction. The operation has been as successful as could possibly have been hoped, a most fortunate result in a case which attained so wide a publicity. Had the reputed failure been confirmed, many a child would have been deprived of the benefit which is derived from a successful operation.

Royal College of Physicians At the quarterly meeting of the College on November 3rd, Drs Cumming, Herring and Simpson were introduced and took their seats as Fellows of the College. Drs J. T. Grant, C. C. Easterbrook and Edwin Bramwell were elected Fellows; and Drs G. Lyon, F. N. Menzies, and A. Lyons, Members of the College. Dr A. R. Simpson was elected a Trustee of the College in room of the late Dr G. W. Balfour, and Dr Playfair a representative on the Conjoint Committee of the Triple Qualification.

The Curriculum. THOUGH the mills of a University grind slowly, yet they do grind, and all reformers will hear with satisfaction that the Medical Faculty of the University of Edinburgh has recommended the adoption of the three-term system. This is a much more important reform than it appears on the surface. It means that Medicine and Surgery

will be overtaken in 150, not instead of 100 but in place of 200 lectures; it means that Midwifery will be overtaken in less than the 250 lectures that the majority of students now devote to that subject; and it means all round an increased efficiency in teaching.

It is always the first step which is the difficult one, and now that the Medical Faculty has embarked on a reform career, we trust that we are not over-sanguine in the hope that it will not turn back, but will plough the furrow out.

The next step is the re-organisation of the examinations, and we have reason to believe that that too is likely before long to be dealt with. There is a lot of reading to be done between the lines of Mr Chiene's introductory lecture.

Royal College of Physicians, Edinburgh; Royal College of Surgeons, Edinburgh; and Faculty of Physicians and Surgeons, Glasgow.

THE quarterly examinations of the above Board, held in Edinburgh, were concluded on 28th inst., with the following results:—

First Examination, Four Years' Course.—Daniel Joseph O'Connell, Monkstown, passed the examination.

First Examination, Five Years' Course.—Of twenty-five candidates entered, the following seven passed the examination:—Henry Ronald Leonard, Malta; Oliver David Gunasekara, Ceylon; Harold Hilton Bradley, Manchester; John Patrick Synnott, ——; Timothy John Vaughan, County Cork; Robert M'Connell Blair, Glasgow; and William James Valentine Curtain, Melbourne; and one passed in Physics, three in Elementary Biology, and one in Chemistry.

Second Examination, Four Years' Course.—Of four candidates entered, the following two passed the examination:—Frederick Francis Middleweek, London, and James Ringland Lawther, County Down; and one passed in Anatomy.

Second Examination, Five Years' Course.—Of thirty candidates entered, the following fifteen passed the examination:—William Murphy, County Cork; Robert Johnstone Crawford, Glasgow; Charles Henry Arthur Alderton, India; Archibald Randolph Fulton Douglas, Greenock; James Silvester Morris, Ireland; Angus Cameron Mackay, Argyll; John Fergus Maine O'Flaherty, County Galway; John Hugh Simpson, New Zealand; Duncombe Steele-Perkins, Exeter; Michael Albert Mulrain, Trinidad; Bernard William Dakers, Hawick; James Stirling

Macdonald, Cape Colony; Thomas Maine Reid Waddell, Japan; William Hanna Clarke, Glasgow; and William Alexander Huston, Belfast; and one passed in Anatomy, and two in Physiology.

Third Examination, Five Years' Course.—Of twenty-nine candidates entered, the following sixteen passed the examination:—Alan Cunliffe Vidal, Eton; John William Pell, London; Lester Ernest Ashley-Emile, India; William Nicholas Alexander, Dublin; William Montgomery Johnston, County Derry; Denham Cecil Woods, India; James Taylor, Auchterarder; William Dick, County Tyrone; Edward Ernest Murphy, County Cork; Edward Francis Nyhan, County Cork; Michael Philip Desmond, County Cork; Soralji Jamasji Bhathena, Bombay; Gunamal Santdos Thadani, Hyderabad; James Dow Kennedy, Govan; Daniel Michael Donovan, Cork; and Capel Geary Dyer, Hampshire; and two passed in Materia Medica.

Final Examination.—Of eighty-three candidates entered, the following forty passed the examination, and were admitted L.R.C.P.E., L.R.C.S.E., and L.F.P. and S.G.:—James Victor Connell, Ontario; Herbert Cunningham Featherston, Montreal; Arthur Joseph O'Leary, Liverpool; Matthew John Perkins, Canada; Henry Alexander Hagenauer, Victoria; Hugh Edwin Munroe, Canada; Evelyn Neville Lea Wilson, Sanagate; Leo Levi, Turkey; Jamshijd Dadabhai Munsiff, Bombay; Thomas Frederick Bayfield, Canada; Robert Septimus Walker, Sunderland; Katherine Mary Chapman, Shropshire; Evelyn Morris Frankler, Cork; Angus Calder Mackay Macrae, Sutherlandshire; William Dalziel Sutherland, South Shields; Fitzroy Keyt, Ceylon; Samuel John Graham, Lisbellaw; William Thomas Williams, Ontario; James Howard Munro, Ontario; George Alexander Paulin, Edinburgh; Khandu Ganpatrao Gharpurey, India; William Adams, County Antrim; William Ness, Quebec; Stanley George Allwood, Jamaica; Cecil James Todd, London; Irene Mabel Dewey, India; Richard William Chester, India; Robert Carroll Hiscock, Canada; Lester Ernest Ashley-Emile, India; Leo Ambrose Ekanayaka, Ceylon; David Gilbert Gellatly, Manchester; Mary Lucinda Calderwood, Cumberland; Charles Stewart Hunter, Edinburgh; Fritz George Heyer, Melbourne; Ernest Goodwin Rawlinson, Canada; Andrew Farm Bell, Barrhead; Robert M'Leod Watson, Campbelton; Charles Spencer Buck, London; John Joseph Uniacke, Cork; and John David Jones, Carnarvon; and seven passed in Medicine and Therapeutics, one in Surgery and Surgical Anatomy, eleven in Midwifery, and ten in Medical Jurisprudence.

PLATE VI.—DR STIRLING.

JUBILEE OF DR DAVID STIRLING

DR STIRLING of Perth celebrated his professional jubilee lately, and advantage was taken of the occasion to present him with his portrait. The annual meeting of the Perth branch of the Association was utilised for the presentation, and there was a large attendance. The presentation was made by the President of the branch, Dr Liddell, who said :—

"The Perthshire Medical Association has from time to time done honour to a distinguished member after long service of conspicuous merit, but it is a unique affair for us to celebrate the jubilee of one of our number. Of all the learned professions, as they were called, the medical was the most short-lived, for reasons too well known for them to require mention. It is therefore all the more gratifying to us to see Dr Stirling, after fifty years' hard labour, still actively engaged in the work of his profession, and that, too, with an energy which is, to say the least of it, startling to his younger brethren. I need not remind you of Dr Stirling's long and honourable connection with the Perth Infirmary and with the Hillside Home, a connection which we are happy to think he still retains, and we hope will retain for many a day to come. (Applause.) That the Hillside Home is to-day what it is, as we well know, is the work of Dr Stirling, and I venture to think that Dr Stirling's name will be handed down to posterity, not as the honoured family physician, not as the public-spirited citizen of Perth, though these will be cherished memories, not even as the man who, in spite of the exacting service of the Perth public, attained his jubilee in working order, though the public had many a time set up a statue in memory of a man who had done a great deal less—not as any of these, but as the man who set agoing the Hillside sanatorium for the treatment of tuberculosis. (Applause.) For his work there alone he deserves the very best honour we can give him. (Applause.) That he stands *facile princeps* in the opinion of his professional brethren, the eagerness with which we have seized this great occasion to do him honour testifies. We honour him as an ornament of the profession ; we are much indebted to him for all he has done to advance in the public estimation the good opinion of the medical profession ; and we are indebted greatly to him for the many times he has given to us a helping hand so willingly when we were in doubt and difficulty over a troublesome case. We beg to offer for his acceptance that portrait of himself as an earnest of our high appreciation of his outstanding merit, with every good wish for his future happiness and prosperity." (Loud applause.) The portrait, which was painted

by Mr C. S. Sellar, R.W.S., was then unveiled, and was at once seen to be a striking likeness.

Dr Stirling, in reply, said:—Dr Liddell and colleagues, it is not possible for me to express what I fain would on this occasion. That I feel deeply your kindness I need hardly say, but felt unworthiness to receive so kind an expression of regard renders choice of language difficult.

It is allowed to few in any walk of life to attain to fifty years of active labour and still have strength and will to work. In our profession, as on the golf links, old and young meet happily and enjoy the friendly intercourse that the work as well as the recreation allows. When age unfits for the long game, the approach and the putting green afford play enough for advanced years. I gladly give place to others in the daily and nightly round of anxious life, and as gladly render any help in my power that age and experience permit.

So long as bodily health continues, and the studies required of us all continue a delight, the old may still have a place in the field—the jubilee year will then have its joys. Too true it is that it brings before the court of self-judgment many shortcomings, sad, though vain, regrets. Misunderstandings on the golf green often require explanations or apologies. We never hear of wilful, deliberate, unfair play there. Misunderstandings with us, in our often difficult, delicate relationships with patients, may put us into tight corners, nasty bunkers sometimes. Far oftener, nearly always, however, are these due to want of fair, open dealing on the part of the patient or friends, than to professional jealousies or unworthy thought of personal position or gain. Long experience allows me to speak thus, and while doing so to confess that on such occasions only sorrow and regret remain, if explanations fail to put matters straight. A jubilee year, I can truly say, is full of mingled feelings. Your kindly recognition of long service, of pleasant intercourse, is in my case one of its truest joys.

While asking you to accept most grateful thanks for a gift, not to myself only, but one that will be valued by others long after my journey is run, I think of very recent changes here. Since I first learned of your sympathy with age and long service, two of our then colleagues have been called to pass over into the unseen. We sorrowfully bade them "Good-bye" at the gate of that resting-place where so many of our dead lie.

Our sympathies go out to the homes so changed, so darkened.

These are the last of twenty-two professional brethren who have died since I began work in Perth. All my then colleagues have passed away. Not one of all whom I knew in the county then are alive to-day except my kind old friend,

Dr Lowe of Coupar-Angus, who retired from active life some time ago.

I know of no way of expressing more fully my appreciation of your much valued kindness than by speaking for a little on some of the contrasts between the middle of last century and the third year of the new. When I began the study of medicine in Edinburgh in 1849 our science and art were in what may be called a transition state. Excitement was great, there was party spirit with a vengeance.

Allopathy, homœopathy, hydropathy, had many and able exponents, and strong language was not wanting. A universal scepticism seemed likely to take hold of the students when the teachers fought. But true science kept on its way. It was a grand time for a student; he was obliged to think. There was not so much crammed into a student's head then as now, but he had time to grope about and gather for himself. The masters were busy with new work and the stimulus inspired by able searchers after truth was felt even by the youth who had pass examinations to face.

I am not sure that the new work of scientific enquiry under these modern methods has not had a powerful influence over what was then young mind all through later life. It was not all loss to belong to a transition period. . . . What changes since those days; every medical and surgical work of that time are more or less imperfect, most of them full of errors in the facts of physiology, pathology, and practical applications of science to the art of healing. They are all on old shelves, never opened. Then, hospital fever, hospital gangrene, erysipelas, septicæmia and pyæmia ran riot. Lying-in hospitals were no blessing—the mortality was so great.

Major and minor operations, successful at one time, were unsuccessful at another. Wards were emptied, cleaned, aired and re-filled, but the terror returned again and again. The cause at work was hidden, to be revealed by and by.

Anatomy was taught by great masters. Surgical handicraft was perfect in the hands of Syme, Fergusson, and many others, but "hands off" was the order of these men when operations now common were talked of or tried.

Physiology, a study as old as the day when man looked at living things, observed and wondered—ever growing in interest since—made a new start little more than fifty years ago. That study became a revelation to students then; those who have tried to follow its growth with even greater interest than was that of the first peep into the mysteries of life, rejoice in its progress. If envy could be allowed as harmless under any circumstances, it would be the envy of age, that cannot take a place as a student under the modern expert's guidance, along with the favoured

nurses for our hospital patients became a constant thought. The story of the struggle need not be repeated now, but in July 1871 a staff of nursing sisters under a superintendent took over the entire nursing of our hospital. The change was radical, the benefit immense and lasting.

In 1877 difficulties occurred in regard to the removal of several of the nursing staff by the head of the Order in London, and the arrangement ceased. In 1878 Miss Logan took over the nursing here, along with two staff nurses and probationers. I think it was not until 1872 that the old system gave place to the new in the well remembered old Royal Infirmary of Edinburgh. Perth rather led than followed.

Happy days for doctors, patients and the public now. When one looks back to what all had to endure then, it is like awakening from a horrid dream.

The modern treatment of brain disease as we see it was just beginning in the late forties.

In 1852 some of the fixed seats fitted with strong straps and buckles were still seen in Murray's Royal Asylum, not in actual use, but not removed. In that place, where now, under the kind and scientific care of our good friend, Dr Urquhart, we now see a home of quiet, kindness and love, there were scenes of wild mania among sufferers, and reckless harshness on the part of attendants.

The contrast is almost too great to realise.

Box beds with barred lids shut down and locked by night, strong jackets by day, began the deliverance of sufferers from brain as wild animals to be kept at bay. Now a full staff of trained attendants, firm, but kindly, rule. Contrasts many might be drawn, but perhaps more than enough has been said of what is now relegated to the limbo of forgotten history. Your kindness to me to-day emboldens me to hope that a short notice of a past in which you had no share, but of which you are direct descendants, may not have been without a passing interest. Forgive me if I have wearied you.

Age almost envies youth the prospect of acquiring knowledge and use of what is still to be in the future of our grand profession.

That great joy in successful study and useful work may be yours who are still young, and that you may have health in sufficient measure, not only to work, but to enjoy work, is the hearty wish of one who has enjoyed work for fifty years."

Sheriff Sym, who was asked to say a few words, remarked that the proceedings that night were the tribute of an unselfish profession to a conspicuously unselfish man. If the great public of Perth and Perthshire had been there that night they would

have been at one in praising and honouring the distinguished and kindly friend they were now honouring.

The company then adjourned to the dining-room, where dinner was served and several toasts were pledged.

Recent Literature

CRITICAL SUMMARIES AND ABSTRACTS

MEDICINE

HEMISYSTOLE—CARDIAC EPILEPSY

By F. D. BOYD, C.M.G., M.D., F.R.C.P.,

and

W. T. RITCHIE, M.D., F.R.C.P.,

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Hemisystole.—Asynchronous action of the ventricles, or hemisystole, is one form of arrhythmia of considerable interest. Among the earliest of important cases were those recorded by v. Leyden (1). He states that the important point in the diagnosis of hemisystole is that, notwithstanding a double venous pulse and a reduplicated cardiac impulse, there is arterial pulsation only with the first phase of the cardiac impulse. He interprets these phenomena as indicating asynchronous contraction of the ventricles. Such asynchronism is apparently still more evident when, as in some cases, there is a double cardiac impulse, the first impulse coinciding with a definite venous and arterial pulse, whereas the second impulse coincides with a venous pulse only, there being no coincident arterial pulsation. In such cases it was assumed that at the time of the first impulse both ventricles contract simultaneously, but that at the second impulse the right ventricle alone contracts. Unverricht (2), Schatiloff (3) and Fisher (4) have likewise recorded cases which they regarded as hemisystole. In Schatiloff's case it was found that for each apical pulsation there were two epigastric pulsations. The radial pulse coincided with the apex beat and with the first of the two epigastric impulses; and on comparing the pulsations of the radial artery and jugular vein, it was evident that for each contraction of the left ventricle there were two contractions of the right ventricle. Gaskell, Knoll, Kries and Arloing (5) have maintained that hemisystole may be experimentally induced in animals. Hering (6), however, in a recent paper, discusses the question as to how far the results obtained from such animal experiments can be made

use of to explain so-called hemisystole in man. He differentiates two forms of hemisystole in animals. In the one form, one ventricle continues to beat whilst the other has ceased to do so. In the second form, one ventricle contracts less frequently than the other. He points out that from a clinical standpoint, it is only this second form of hemisystole which can possibly be of any importance. But in animals this form of hemisystole occurs only under conditions which are incompatible with life, whereas the clinical condition termed hemisystole is by no means incompatible with the life of the patient. Hering therefore concludes that in those clinical cases, such as v. Leyden's, which have been designated hemisystole, one is not dealing with true hemisystole. Frank and Voit go still further than Hering in maintaining that even in animals true hemisystole can not be induced even experimentally; and Mackenzie, who finds that the auricles invariably act together, believes that asynchronous contraction of the ventricles never occurs, except perhaps in the instance of a dying heart. Thus the possibility of experimentally inducing asynchronous ventricular action has still to be proved.

Looking at the subject from a purely clinical standpoint, one finds that the physical signs, regarded by v. Leyden and others as indicating hemisystole, are held by yet other observers to indicate cardiac bigeminism.

In bigeminism the post-systolic diastole is short, being interrupted by a premature or extra-systole, which is, in turn, usually followed by a long diastolic period. Riegel (7) claims that tracings from cases of so-called hemisystole point clearly to the causal condition being bigeminism. The second cardiac impulse, which according to v. Leyden represents the systole of the right ventricle alone, is according to Riegel a premature systole of both ventricles. In these cases the premature systole is readily seen in tracings of the cardiac impulse and venous pulse, whereas the arterial pulse wave resulting from this systole is imperceptible to the finger, and is very imperfectly indicated in a tracing on account of the elasticity and contractility of the vessel wall tending to obliterate this wave. Riegel further points out that if there were a true hemisystole in which both ventricles first contracted simultaneously, this contraction being followed by a contraction of the right ventricle alone, one would expect the rhythm to be regular. But as a matter of fact in the cases of so-called hemisystole the pause after the second systole is much longer than that between the first and second systoles. This, therefore, indicates that the second systole is in point of fact merely a premature systole of both ventricles, and it is followed by a long diastolic pause. Riegel thus agrees with Bozzolo, His (8) and others, in concluding that bigeminism

affords the best explanation of the occurrence of a double cardiac impulse and a double venous pulse for each arterial pulsation. True hemisystole does not exist clinically.

Cardiac Epilepsy.—Under this designation one can include according to Rueff (9), two different groups of cases. The first group present specific cardiac manifestations induced by true epilepsy. Some forms of angina pectoris may, he supposes, be regarded as equivalents of an epileptic seizure. According to Bellisari (10) there is a form of paroxysmal tachycardia which is to be considered as equivalent to an epileptic seizure. The paroxysm may be due to neuropathic heredity, trauma, or a cortical lesion. Bellisari assumes that the cardiac rhythm may be influenced by the cerebral cortex, in that the cortex may inhibit the cardio-inhibitory action of the vagus. On this theory one may conclude that in epileptic tachycardia the cardio-inhibitory action of the vagus is arrested by cortical irritation. In the diagnosis of epileptic tachycardia, one must be guided to a large extent by the patient's history, by the nocturnal character of the attacks, by the antecedent and subsequent phenomena, and by the beneficial effect of bromides. The prognosis of epileptic tachycardia is relatively favourable, yet frequent attacks may lead to permanent hyposystole; in which case, however, one must consider whether there is not a myocardial lesion independent of the neurosis. Cardiac dilatation and hyposystole may be induced in other cases by the rise in blood-pressure which occurs during an ordinary attack of *grand mal.*

In other cases there may be a cardiac aura. Huchard (11) records a case of this nature. A man aged 35, of healthy appearance, who presented no physical signs of nervous or cardiac disease, had attacks of palpitation followed by pallor of the face and he would then fall unconsciously, but there were no spasms; consciousness was regained in three or four minutes. The palpitation in this case is to be regarded as a cardiac aura.

The second group of cases would comprise those in which there are epileptic manifestations as a direct or indirect result of cardiac disease. Rueff concludes from a study of the subject that the occurrence of cardiac epilepsy—of epilepsy due solely to intracerebral circulatory disturbance—has not yet been sufficiently demonstrated. It is possible that cerebral anæmia or congestion may render a silent cerebral lesion epileptogenic, but there are no grounds for believing that cerebral anæmia or congestion alone can induce an epileptic attack. Rueff's conclusions on this point will meet with general acceptance; but although there be no such condition as true cardiac epilepsy, it is recognised that epileptiform seizures may occur in the course of cardio-vascular disease. In Stokes-Adams' disease, the chief symptoms of which are bradycardia, vertigo, syncopal attacks,

epileptiform convulsions and disorders of respiration, the convulsions may be both tonic and clonic. They affect the voluntary muscles of the trunk, or in mild cases may be limited to the facial muscles. Babcock, in his recent monograph, says that in most instances there is no foaming at the mouth, biting of the tongue or involuntary discharge of urine or fæces. The occurrence of brief periods of unconsciousness during which the individual may fall to the ground, the previously slow pulse which becomes still slower and the discovery in such a person of arterio-sclerosis or signs of cardiac disease, constitute a group of symptoms which justify a diagnosis of Stokes-Adams' disease.

REFERENCES.

(1) *Deutsch. med. Wochenschr.*, 1903, S. 361. (2) *Berliner klin. Wochenschr.*, 1890. (3) *Zeitschrift für klin. Med.*, 37, 1899. (4) *Guy's Hospital Reports*, 56, 1902. (5) *Festschrift für Leyden*, 1902. (6) *Deutsch. med. Wochenschr.*, 1903, No. 22. (7) *Deutsch. med. Wochenschr.*, 1903, S. 795. (8) *Deutsch. Archiv für klin. Med.*, 64. (9) *Revue de Médicine*, 1903, p. 131 (10) *Rif. Med.*, 1903, No. 10. (11) *Journal des Practiciens*, 1903, p. 276.

SURGERY

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SURGICAL TUBERCULOSIS

THE question of the treatment of external or surgical tuberculosis is one that is ever present with us, and that gives rise to much difference of opinion, due largely to the chronic character of the disease and its tendency to relapse, so that cases are not always kept long enough under observation to allow of an accurate estimate of the value of certain vaunted methods of treatment.

The tendency to relapse or recrudescence of bony and joint tuberculosis, even many years after apparent cure, has been long known to clinicians, attention being drawn to the point by Paget in 1869 (especially in connection with spinal and hip disease), in his paper on residual abscess. This tendency, however, is apt to be overlooked in the treatment of cases, *i.e.* sufficient care is not taken to guard against recrudescence by prolonged and careful treatment, and the prognosis is not always sufficiently qualified in cases of apparent cure. Painter (*Boston Medical and Surgical Journal*, January 1903) has done good service in publishing an analysis of forty-seven cases of late (ten or more years) recurrence in cases of healed tuberculosis of joints.

The title of the paper, "The malignancy of joint tuberculosis," we might be disposed to quarrel with, though the word malignant is only used to describe the clinical character of the disease. Painter urges that the treatment of the disease in childhood should be more prolonged, and that measures for the eradication of disease should be taken whenever possible, and

good hygienic surroundings secured. The main points of the paper may be summarised:—

1. Tuberculous disease of joints tends to recur after apparent cure in a considerable proportion of cases.

2. The recurrence is most commonly a local one. Metastases are not common.

3. Trauma, direct or indirect, is frequently associated with the recurrence. Indirect trauma is probably the exciting cause of the recurrence, especially where partial ankylosis or deformity exists.

4. Patients who have suffered from bone or joint tuberculosis should be cautioned that they are not well when symptoms have ceased, and that reasonable care must be exercised to avoid recrudescence.

5. Deformity and shortening should be corrected as far and as accurately as possible to lessen the chance of recrudescence.

6. Mechanical treatment, especially fixation, should be used in the acute cases in childhood. Exploratory interference, where discretion is used, with a view to removal of isolated foci, is advisable in many cases in children, and is to be urged in the majority of recrudescences, if seen early. The best hygienic conditions for the patient must be insisted on.

Much has been made of the open-air treatment of pulmonary tuberculosis, but its importance in tuberculous disease of bones and joints has been largely overlooked, as the other necessary methods of treatment by operation, apparatus, etc., are apt to engross attention and make one forget that it is a tuberculous patient who is being treated: one who requires all the aid to his recuperative and resisting power that can be given.

An article by Burrell appears in the *Boston Medical and Surgical Journal*, June 25, 1903, advocating most strongly the treatment of surgical tuberculosis in sanatoria in the country, not necessarily to the exclusion of other means of treatment, but in addition thereto; notes on certain sanatoria are given. A paper in the same sense is published in the *Transactions of the American Orthopædic Association*, vol. 15, by Dr Galloway of Toronto, who has met with most encouraging results by treating patients in tents, a method which he advocates as being much cheaper than elaborately built sanatoria, and more nearly approaching the ideal of a completely open-air life. Especially gratifying results have been obtained in cases with old discharging sinuses. At the same time treatment by rest, mechanical support or surgical interference is carried out.

A. H. Tubby (*Practitioner*, September 1903) raises the question as to whether the treatment of surgical tuberculosis in the urban hospitals is justifiable. He compares the results of the work in four of the children's hospitals in London for one year with those of the hospital for hip disease (and other forms

of tuberculosis) at Sevenoaks, and claims that a larger proportion of the cases treated in the country are cured so far as to be able to earn a livelihood. Children cannot be treated long enough in the town, either from demands made on the accommodation by other cases, or from the fact that children's health suffers from long confinement in city hospitals. The average length of treatment in towns was forty-one days; at Sevenoaks, ten and a half months.

The large number of partial cures or slightly improved cases resulting from treatment in town he looks on as a reproach, and considers that the time, money and skill spent on them are quite wasted. He advocates the institution of a central board to which all cases applying to the hospitals should be notified, and the establishment by the hospitals, either jointly or severally, of country branches where tubercular cases may be treated till cured or definitely proved to be incurable. The only difficulty is the question of expense; but undoubtedly if the same amount of money that is already spent on the partial cure of a number of patients were spent in obtaining complete cure, though in a smaller number of cases, there would be an economic gain in the best sense of the word.

Spine.—The practice of forcible correction of deformity in Potts' disease, so strongly advocated by French surgeons some years ago, is falling into deserved neglect as being a somewhat dangerous procedure, and only too likely to rekindle the smouldering embers of disease. Its vogue, according to W. L. Taylor (*Amer. Orthop. Assoc. Trans.*, vol. 15), was due to a want of appreciation of the pathological conditions underlying the deformity and partly to ignorance of the results that might be expected from prolonged treatment by rest and mechanical support. Taylor publishes an account of the final result of thirty-nine cases treated by the use of the Taylor support and brace, with recumbency where necessary, and kept under observation for periods varying from ten to thirty-seven years. The history, with tracings of the deformity at different periods is given with each case, and the final result after at least ten years from the beginning of treatment is stated. The cases are in no way selected, except that they were all patients of sufficient intelligence and in good enough circumstances to carry out a prolonged treatment, and to report themselves for examination from time to time. All the cases whose record extended over ten years are given, and form instructive reading.

The general results of a review of the cases may be summarised thus:—

(*a*) The application of spinal support was nearly always promptly followed by the relief of pain and other

acute symptoms and improvement in the general health.

(*b*) Disease was cured in thirty-three cases, and in a considerable number the cure was practically perfect as regards health, figure and function.

(*c*) Result was good as regards deformity in half the cases, thirteen showing arrest or decrease.

(*d*) As to the final amount of deformity, the situation of the disease was more important than any other factor, the cervical region being the most favourable, the lumbar next, and the dorsal least favourable.

(*e*) It was necessary to continue spinal support in most cases long after the pathological cure, owing to the tendency to increase of deformity from static conditions.

(*f*) Anchylosis, therefore, is rarer and less solid than usually assumed.

The plaster of Paris jacket has for long been probably the most commonly used apparatus in treating spinal caries, but whether it is to do good or positive harm depends entirely on the mode of its application. As Lovett (in the same volume of *Transactions*) points out, the object of its application is not only to limit movement, but by the position which it enforces to lessen as far as possible the pressure on the diseased vertebral bodies. He describes a simple form of rectangular frame on which the patient lies face downwards, with the head and thighs supported by transverse bands of webbing, to have the bandage applied.

The frame is also supplied with longitudinal bands which support the body in front, and which can be raised at one end by means of a smaller internal and movable frame to which they are attached at the head end of the frame. The patient lies flat at first, and the lower part of the jacket reaching just up to the apex of the curvature is applied and allowed to set. The shoulders are then slightly raised so as to cause slight hyperextension at the seat of disease, and the rest of the jacket applied, reaching well up in front of the shoulders. The longitudinal bands of webbing are then detached from the frame and slipped out from below the jacket.

Paraplegia in the course of Potts' disease is not an uncommon occurrence, and experience has shown that a great number of cases recover completely by rest and some form of extension.

In some cases, however, operation becomes necessary. Clark (*Practitioner*, September 1903) reviews the whole question as regards treatment, and suggests that those cases should be submitted to operation: (*a*) where paralysis comes on suddenly and is both motor and sensory; (*b*) where prolonged rest has failed to bring about improvement.

As to the operation to be performed, forcible extension he rejects as too hazardous, and also because it is only in cases where the cord is jammed between bone that it could conceivably do any good. Laminectomy, as recommended by Arbuthnot Lane, he considers undesirable from the fact that it weakens the spine at the seat of disease, and also if abscess or tuberculous material has to be removed by this route, there is a danger of infecting all the area around the cord, and so leading to a return of paralysis. This was actually observed in one of Lane's cases. The plan he favours is by removing one of the transverse processes with the attached rib at the seat of disease, so gaining access to the vertebral bodies affected. Pus or tuberculous material can be removed by this route without fear of infecting the cord. Drainage should be kept up for some time. Several cases that have been successfully treated by this means are reported.

Clark does not recommend operation as a routine practice, but only in selected cases. The skiagram he has found of great use in determining the presence of prevertebral abscess.

Hip-Joint.—R. T. Taylor (*Trans. Am. Orthop. Assoc.*, vol. 15) considers that in view of the power which improved methods of skiagraphy afford of locating small tubercular lesions in bone and the means that we have at our disposal of disinfecting tubercular foci, such as carbolic acid and alcohol, formalin, etc., the whole question of the treatment of joint tuberculosis should be reconsidered. Of late the tendency has been to avoid direct attack on the disease and rely on rest and fixation with attention to the general health, and to reserve operation for the evacuation of abscess and the correction of deformity in cases where the disease is quiescent. This has been probably a swing of the pendulum away from the older tendency to perform excisions in all cases, with the idea of eradicating the disease, but unfortunately leaving great shortening. The paper is largely directed to the treatment of hip-joint disease, and Taylor describes several cases where he has localised lesions in the head of the femur by means of skiagrams, opened the joint by an anterior incision, scraped out the focus and disinfected the wound with pure phenol and alcohol, or, as he prefers, 2½ per cent. solution of formalin, and treated the case after by means of rest and fixation and attention to the general health. This he terms the rational or combined method of treatment, and claims that it shortens the treatment of cases and lessens the chance of recurrence, and is not open to the objection of causing shortening, as excisions do.

In mild cases, where no focus can be detected, he relies on rest and fixation alone.

OBSTETRICS

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REPEATED CÆSAREAN SECTION UPON THE SAME INDIVIDUAL

IN the *American Journal of Obstetrics* for October this subject is very fully dealt with by Drs George Haven and Ernest Bogen Young, who give the history of two cases in which they had operated twice on the same individual with success. The authors have gone very extensively into the literature of the subject, and have collected statistics of 88 cases, including their own, in which the operation was performed twice; 26 cases with 3 operations; 5 cases with 4 operations; and 1 case with 5 operations. They place no confidence on the statement by older writers that the operation had been done six or seven times upon the same woman. The case reported by Vancrede as having occurred in Louisiana has been shown by Harris to have been a myth.

Their own cases have the additional interest that the initial operations were the first successful Cæsarean sections performed in the city of Boston. The first case was operated upon in 1894 after failure to deliver with forceps. The pelvis was a justo minor one, with a true conjugate of $3\frac{1}{2}''$. Silk sutures were used to close the uterine wound. The patient made a good recovery. The second operation was done in January 1902. The omentum was found to be adherent to the abdominal wall, but was easily separated; it was, however, very firmly adherent to the uterus, and required extensive ligation. The scar on the uterus could not be found. The uterus was again closed with silk. The patient made a good recovery.

CASE II. The patient was a iii-para, with a true conjugate of $2\frac{5}{8}''$. The first delivery had been by craniotomy, and the second by version after failure with forceps. The uterine wound was closed with silk. The second operation was done in 1900, six years later. No adhesions were found. The old uterine scar was scarcely noticeable. The patient made a good recovery. In the four operations the children were all saved.

The authors state that the first successful repeated operation of which they have found records was performed by Boqua, of Nantes, in 1797. There were nine years between the operations. In 1836 Michaelis performed the operation for the fourth time on a woman, and delivered her of a live child. In this case the uterus was so adherent to the abdominal wall that the peritoneal cavity was not opened into. In America the first success was obtained in the Island of Martinique by Dareile in 1804 and 1806, and in

the United States by Dr Robt. Estep, of Columbia County, Ohio, who operated in 1833 and 1834. The woman survived, but both children were dead. In 1884 the operation was performed for the fifth time on a woman of Birnbaum, but the woman unfortunately died of pulmonary embolism on the fifth day. The four last children survived, but the fate of the first was not recorded. The authors have not discovered any other case in which the operation was performed five or more times, so this is probably the maximum, and in this case the pitcher had gone to the well once too often.

Excluding cases which were done in pre-antiseptic days, the authors have collected the records of 167 operations performed on 74 women since 1882. Of these 53 women had 2 operations, with 94 living children, 5 dead at delivery (twins once), and 7 with the result not stated; 19 women with 3 operations, with 49 living children, 1 dead at delivery, and 7 with the result not stated; 2 women with 4 operations, giving 5 living children (twins once), and 4 in which the result was not stated. Of the mothers only 2 died, one having been moribund when operated upon, and the other died on the fourth day from peritonitis.

The following complications were present, due to the previous operation:—In five cases there was a hernia at the abdominal scar. In three there was a utero-abdominal fistula. In the first of these amniotic fluid flowed through the sinus during the uterine contractions in the second labour. In the second menstrual discharge occurred at each period, and always began one day before the vaginal flow. In the third there was a discharge of thin pus, and this patient died of septic peritonitis after an operation undertaken to close the fistula. The other two cases were cured by the second Cæsarean section. As regards abdominal adhesions, the authors do not think they are much less than in pre-antiseptic days, although they are probably less widespread. The omentum was generally found adherent to the uterus and scar, and the intestines adherent to both in some cases. In three cases, one of them their own, there were no adhesions. In some cases, as in Michaelis' case already mentioned, the adhesions were so extensive that the uterus was opened without opening into the peritoneal cavity. Two cases are mentioned where the fœtus and membranes came through an opening in the old scar. One of these occurred in 1847. The adhesions to the abdominal wall accounted for the good results in the pre-antiseptic days. At one time Olshausen recommended stitching the uterus to the abdominal wall, while Kehrer wiped the uterus and parietal peritoneum with 1 in 100 corrosive sublimate solution to cause adhesions, but for a different purpose, viz., to prevent the leakage of lochia into the abdominal cavity. The adhesions were as follows:—

Omentum adherent to uterus		.	16 times.
„	„	abdominal scar	15 „
Intestines	„	uterus .	4 „
„	„	abdominal scar	3 „
Uterus	„	abdominal wall	36 „

The uterine scar is prone to stretch in subsequent pregnancies, and it may rupture. Krukenberg gives 7 instances of rupture at the old scar, and 5 with the scar thin but not ruptured, and 3 with rupture near the scar but not connected with it. Harris gives 3 cases of rupture among 15 American cases. One of these cases was saved by a prompt laparotomy. These cases of rupture all occurred in cases operated upon by the old method. In the series of cases collected by the authors, in 5 the scar was weak, but there were no ruptures. In 16 the scar was seen as a white line, and in 5 it could not be found.

The fate of the sutures is interesting. In one case silver sutures were removed after having been inserted for 5 years; in another they were seen shining under the peritoneum; while in others they had entirely disappeared. Some have been found in the abdominal parietes. Silk for the most part disappears. In one case 30 silk sutures had entirely disappeared after 5 years, while the silver sutures had remained encysted. In some cases the silk is absorbed; in others it is discharged through the rectum, uterus, bladder or abdominal wound. In some cases it was discharged from the abdominal wound a year after its insertion. In such cases the authors suppose the silk has become infected from the uterine cavity as it has been too deeply placed. The results from catgut were not so good. Several cases have been reported where the catgut became untied and allowed the wound to gape. Olshausen, however, reports 29 successful cases with catgut. Broadly speaking, silk seems to be the best suture material.

The question of the dangers of repeated pregnancies from rupture of the scar, abdominal complications from adhesions, etc., is discussed. Each operator must decide for himself the advisability of sterilising the patient unless she wishes the chance of a repeated pregnancy. As regards the methods of sterilising, simple ligation of the tubes is not trustworthy; ligaturing in two places and removal of a portion of the tubes has also failed. Zweifel covers the cut end of the tube with peritoneum. Abel maintains that a wedge-shaped excision of the isthmus would make the operation much more certain, but even this has failed. Hysterectomy is the only absolute method, but the authors think that cutting the tubes and bringing the cut ends beneath the peritoneum comes as near the solution of the problem as is possible.

There is an extensive bibliography appended to the paper, so it will be a most valuable one for future reference.

PUBLIC HEALTH

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DIPHTHERIA BACILLI IN WELL PERSONS

SINCE it was first recognised that diphtheria bacilli and organisms termed pseudo-diphtheria bacilli may be present in the throats and nasal passages of healthy persons, or at least of persons showing no clinical signs of diphtheria, there has arisen for public health authorities much difficulty in dealing with the prevention of diphtheria. The first essential is to obtain some accurate information as to the numbers of such persons (*a*) in the general population, and (*b*) amongst those who may be reasonably supposed to have been in more or less intimate contact with known cases of diphtheria. Further, it is desirable to know in what percentage of such cases the bacilli are virulent or non-virulent, in how many cases are they in an active pathogenic form which would give rise to clinical diphtheria if they were transferred to a susceptible person. Moreover, the relationship existing between true diphtheria bacilli and those other forms which resemble in one or more respects such bacilli, requires further elucidation. The publication of several recent contributions on various aspects of these questions suggests that it may be useful to compare the opinions thus expressed. Perhaps the most important of these is contained in the report of a committee appointed by the Massachusetts Association of Boards of Health. This committee instituted a collective investigation into the whole question, and came to certain conclusions which they embodied in a "Report on diphtheria bacilli in well persons." Their conclusions may be summarised under distinct headings.

Prevalence of diphtheria bacilli in well persons.—Addressing themselves first to the prevalence of diphtheria bacilli in well persons, the Committee obtained reports from various parts of America as to the bacteriological results of the examination of the noses and throats of 4250 persons. The number of persons found to be acting as carriers of various types of diphtheria bacilli varied very much in different places, so the Committee finally decided to eliminate individual differences of opinion (among the bacteriologists engaged in the research) as to the types of bacilli which are true diphtheria bacilli. With this object the Committee furnished each observer with plates of Wesbrook's types of diphtheria bacilli and obtained reports as to the types found present in each case. The Committee then decided that types A, C and D would be recognised as true B. diphtheriæ by nearly all bacteriologists, and that these types alone should be accepted for the Committee's statistics as to

prevalence of diphtheria bacilli in well persons. On this basis it was found that of 4250 persons in the general population whose noses and throats were examined, 2.89 per cent. carried these types and were infected with diphtheria bacilli. This figure would be reduced to 1.39 per cent. if the 1154 persons examined in Minnesota were excluded on the ground that these were mostly residents in institutions and had been more or less exposed to diphtherial infection. So that the Committee infer that 1 to 2 per cent. of the populace in urban communities are infected with these types of B. diphtheriæ. It is to be noted that this estimate is based upon morphology alone.

Prevalence of diphtheria bacilli in "contacts." No investigations on this point were specially undertaken by the Committee, but they state that from the observations of others they believe that, in families where there is diphtheria, from 8 to 50 per cent. of the well members are infected with the bacilli. In institutions, especially those for children, if diphtheria has prevailed, a large number of well children will be found to have the bacilli in their throats or noses.

Virulence of diphtheria bacilli in well persons.—On this question the Committee report a certain number of tests, but not sufficient to support large general conclusions. Of the types A, C and D obtained in pure culture from well persons, 47 were tested and 17 per cent. of these were virulent to guinea-pigs. Of other types 39 were tested and 7.5 per cent. were virulent. The Committee state that they received information leading them to believe that clinically diphtheria is transmitted by well persons carrying the bacilli. They conclude that only a small percentage of typical diphtheria bacilli carried by well persons are virulent, but that the number of persons carrying such bacilli is so large that this forms a very important factor in the spread of diphtheria. The danger of infection from healthy persons may be said to depend on the age, habits, surroundings, occupation and intelligence of the healthy but infected person. Childhood, uncleanliness, overcrowding and institutional life are conditions tending to facilitate the spread of the disease. Likewise employment in the milk industry or in nursing children affords special opportunities for transmission. Simple precautions carried out with intelligence may reduce the risk of individual propagation.

Conclusions.—The Committee finally conclude: (1) That it is impracticable to isolate well persons infected with diphtheria bacilli, if such persons have not, so far as known, been recently exposed to the disease. It is practically impossible to single out of a general population all those well persons who may be carrying, in the secretions of their throats or noses, suspicious bacilli, and so any attempt at systematic isolation of all such persons is out of the question. (2) That it is not advisable as

a matter of routine to isolate from the public all the well persons in infected families, schools and institutions. The Committee advance reasons for this conclusion, such as the lengthened period of family isolation, interference with wage-earners, and difficulty in convincing the individual of the necessity for isolation. Further, they regard one negative culture as insufficient to justify release of a well person from isolation, whilst to require two or three successive negative cultures would certainly much prolong the isolation. The method has been given a trial for five years in one district, but has been abandoned owing to the opposition it aroused from both the laity and the profession. The Committee, though coming to this conclusion, consider that certain precautions may be taken. For example, well children in infected families must be kept away from day-school, Sunday-school, and all public places. While wage-earners generally are allowed to continue work, certain kinds of occupation, such as teaching children or dealing in milk, should be forbidden. In schools and institutions all infected persons, whether sick or well, should be separated from the non-infected. To control epidemic diphtheria at its inception, it is advisable to isolate all those who have been in contact with the first cases, until such contacts are proved free from diphtheria bacilli. The Committee recommend education of the public, and especially of school children and members of infected families, in simple methods of cleanliness, for the prevention of the chief dangers from secretions. The Committee recognise that in particular cases Local Authorities may be able to isolate all persons carrying diphtheria bacilli, and to thereby check an outbreak of diphtheria.

Views somewhat different from those recited above are advanced by Graham-Smith (*Journal of Hygiene*, April 1903), who has collected and marshalled therein a number of statistics for the purpose of showing that virulent diphtheria bacilli do not exist in the noses or throats of healthy persons who have had no opportunity of acquiring them by contact. The inference from this is that the method of isolating convalescents and healthy persons harbouring the bacillus is likely to be of great benefit in suppressing epidemics. If numerous healthy persons in the general population, who have had no known contact with the disease, are infected with the bacillus, the method of isolation of particular persons is likely to be ineffectual, and at the same time irksome and onerous to the individuals isolated. Graham-Smith quotes various statistics showing that in about 80 per cent. of notified cases of diphtheria the presence of the bacillus is proved by bacteriological examination. The frequency of the occurrence of the organism in contacts varies very much in the results of different workers. The mean of the examinations gives the following results: In families (where close contact

may be surmised), 51 per cent.; in cases of more distant contact, *e.g.* in institutions, 40 per cent., in schools, 24 per cent.; in the class of general contacts, only 12 per cent. show diphtheria bacilli. As to the prevalence of diphtheria organisms in the general population, Graham-Smith concludes that virulent forms are seldom if ever present in the throats of healthy persons who have not been in contact with cases of diphtheria or with infected contacts. Upon this assumption attempts have been made to suppress diphtheria epidemics at Cambridge and Colchester by isolating all diphtheria cases and all contacts found to have diphtheria bacilli in their throats. Particular attention was paid to school contacts, and adjuvant methods were employed as well as isolation, *e.g.* the administration of antitoxin as a prophylactic and the use of antiseptic mouth-washes. The results are stated to have been highly satisfactory, especially in the case of school epidemics. Graham-Smith concludes: (1) that diphtheria bacilli have been found in a considerable proportion of persons who have come into contact with cases of diphtheria or with other infected persons; (2) that such persons have been shown to be a grave danger to public health, especially when frequenting schools or institutions, and to constitute the usual channel by which the disease is spread; (3) that very satisfactory results have followed isolation of convalescents and infected "contacts" where two or more consecutive negative examinations have been required before release; (4) that virulent diphtheria bacilli are very seldom (three examples amongst 1511 persons) present in the mouths of the normal population, and that consequently the discovery and isolation of the majority of infected persons is a practicable possibility. It will be seen that these conclusions in some respects differ considerably from those of the Massachusetts Committee, but in regard to the occurrence of virulent diphtheria bacilli in healthy persons among the general populace the figures approximate very closely. For example, in a population of 15,000 persons, on Graham-Smith's computation, 30 persons would harbour virulent diphtheria bacilli; whilst in a similar population the Committee's estimate would show that 1.39 per cent., or 209 persons, would harbour bacilli morphologically diphtheria bacilli, but only 17 per cent. of these., viz., 35 persons, would be carriers of virulent bacilli. Observers differ very much in their opinions as to the occurrence of diphtheria bacilli in normal persons, some regarding even the occurrence of non-virulent organisms as rare, whereas others consider it very common. Thus Hewlett and Murray found 15 per cent. of normal children amongst the general community to have diphtheria bacilli in the throat. Without detailing all the statistics, it may be said that the variance of opinion is due partly to reliance upon morphological characters alone without cultural and biological tests. It is to

be hoped that future statistics will deal with cultural characters and virulence as well as morphology.

Bacteriological considerations.—No universal agreement has yet been reached as to the particular morphological types of bacilli resembling B. diphtheriæ which are to be regarded as true B. diphtheriæ. The Massachusetts Committee adopted Wesbrook's classification. In this the bacilli are divided according to staining reactions into granular, barred, and solid forms. Each of these groups is further subdivided, according to the shape and size of the bacilli, into types designated alphabetically from A to G. The Committee assumed that only the granular group, and of it only types A, C and D would be universally recognised as true B. diphtheriæ. Consequently their statistics as to diphtheria bacilli are based upon the occurrence of these particular types. But in addition, elaborate tables are given as to the frequency of occurrence of each of the other groups and types. The relationship of these other bacilli to diphtheria requires more investigation. The Committee state that the granular group is the most important one in the causation of diphtheria, and that the large granular types are most often present in cases of clinical diphtheria. As to the barred forms, the Committee admit that in some clinical diphtherias these are the only bacilli present, but they consider such a condition very rare. As to the solid forms, the Committee point out that in cases of diphtheria these forms are seldom present alone, that in healthy persons they may be found in as many as 20 to 25 per cent. of examinations, and that consequently they are of little diagnostic value. While accepting the view of Wesbrook and Gorham that the solid forms may be present alone in true diphtheria, and are then virulent to guinea-pigs, the Committee think that such cases are extremely rare, and that the solid forms are usually non-virulent, and frequently occur in healthy persons. The Committee note that many of these solid forms are differentiated from typical diphtheria bacilli by absence of the power of production of acid in dextrose bouillon, and that these forms are by many authorities not regarded as diphtheria bacilli at all, but termed Hofmann's bacillus or pseudo-diphtheria bacilli. Wesbrook and Gorham consider that during convalescence the morphological type of bacilli present may change from granular to solid forms. To show the divergence of views on this point of the relationship of such varieties of bacilli to diphtheria, it is only necessary to quote in comparison some other recent contributions to the subject. Graham-Smith (*loc. cit.*) concludes that the bacillus of Hofmann is innocuous to man, and is a very common organism in the mouths of the poorer classes, especially children. It is relatively uncommon amongst well-to-do persons, and even amongst the children of this class. The distribution

of this bacillus points to the conclusion that it is carried from mouth to mouth in the same way as the diphtheria bacillus. Graham-Smith classifies bacilli resembling diphtheria bacilli into two broad groups, each further subdivided into two, thus: (1) Bacilli identical in appearance, both in culture and under the microscope, with diphtheria bacilli, (*a*) Pathogenic acid producers, usually showing polar bodies by Neisser's method = virulent Klebs-Löffler bacilli; (*b*) Non-pathogenic acid producers, Neisser's staining generally positive = so-called attenuated diphtheria bacilli. (2) Bacilli somewhat resembling diphtheria bacilli, but (generally shorter and) stouter, (*a*) Non-pathogenic, non-acid-producing segmented bacilli, showing no polar bodies by Neisser's method = pseudo-diphtheria type of Hofmann's bacillus; (*b*) Non-pathogenic, non-acid-producing short bacilli, no polar bodies by Neisser = typical Hofmann's bacillus.

It is still open to question whether Hofmann's bacillus can by any change of environment be converted into a typical diphtheria bacillus. Richmond and Salter published some experiments to show that it could, by repeated passage through goldfinches, be so converted, and that pseudo-diphtheria bacilli are therefore only attenuated varieties of true B. diphtheriæ. Hewlett and Knight also state that under certain conditions either form might be converted into the other, but there is no very satisfactory evidence as to such a change taking place in the human subject. Cobbett agrees with Graham-Smith in regarding Hofmann's bacillus as a separate organism and innocuous to man.

At the Liverpool Congress of the Royal Institute of Public Health, 1903 (*Journal of State Medicine*, October 1903), a discussion took place on "the nature of the so-called pseudo-diphtheria (Hofmann) bacillus, and its significance (if any) in the bacteriological examination for diphtheria." Cobbett presented a paper in which he submitted that the bacillus of Hofmann differs fundamentally from the diphtheria bacillus in producing no acid out of glucose. It is very widely distributed, and no more prevalent in diphtheria 'contacts" than in healthy persons. It is never virulent to guinea-pigs, and is not agglutinated by a serum which agglutinates diphtheria bacilli both virulent and non-virulent. Further, he states that Hofmann's bacillus forms no toxin. On the other side, Heaven submitted a paper stating his conviction that the Hofmann bacillus is in some cases capable of conversion into forms accepted as morphologically diphtheria bacilli, and may give rise to illness. Heaven points out that in three months eighteen throat swabs sent in to the Bristol Health Laboratory yielded only Hofmann bacillus, but had been obtained from cases sufficiently ill to raise the question of diphtheria. He therefore denies that Hofmann's bacillus never gives rise to clinical symptoms. He quotes various cases to show that this bacillus

can cause disease which apparently may resemble diphtheria closely, even to fatality. Further, Heaven states that in Bristol change of type of the organisms present during a case of diphtheria is common. Cases showing only Hofmann's bacillus, but treated in wards with cases of typical diphtheria, have remained free from typical diphtheria. "Contacts" showing only pseudo-diphtheria or Hofmann's bacilli should be excluded from school attendance. Tanner followed with a paper in which he referred to those throat conditions which give rise to suspicion of diphtheria, but which yield only pseudo-bacilli on cultivation. He considers that the Klebs-Löffler and the pseudo-bacillus may be altered forms of the same organism. He notes that early bacteriological examination of suspicious throats in the initial stages of diphtheria reveals frequently only pseudo-bacilli, while a couple of days later typical Klebs-Löffler bacilli were found and the case clinically showed itself as diphtheria.

In the discussion which followed these papers the general opinion appears to have been contrary to Cobbett's view of the innocuous character of Hofmann's bacillus. Bousfield emphasised the occurrence of bacilli, not diphtheria according to Neisser's reaction, but associated, nevertheless, with clinical features of diphtheria. Kent referred to similar cases and quoted two, one of which ended fatally. Buchanan supported the view that the forms were transitional, and said that as convalescence approached the tendency was for the pseudo type to appear. Hewlett places the Hofmann bacillus as a very non-virulent Klebs-Löffler bacillus.

The attitude of physicians engaged in the treatment of diphtheria is sufficiently indicated by the following quotation from an article by Dr Ker, Superintendent of the Edinburgh City Hospital, in the *Practitioner* for October 1903: "Indeed, it almost is coming to this, that without inoculation experiments a bacillus means little or nothing, and inoculation experiments require time. In conversation with physicians in charge of large numbers of diphtheria cases, I usually find that they diagnose a case clinically, give antitoxine, and do not pay too much attention to the bacteriological report." In the *Gazette des Hôpitaux* (14th March 1903) Marfan describes the results of comparison between the bacteriological and clinical observations of more than 2000 cases of diphtheria, and on the whole finds that each supports the other with much accuracy.

A study of all these communications suggests that the different opinions call for a large collective investigation in order to attain progress.

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